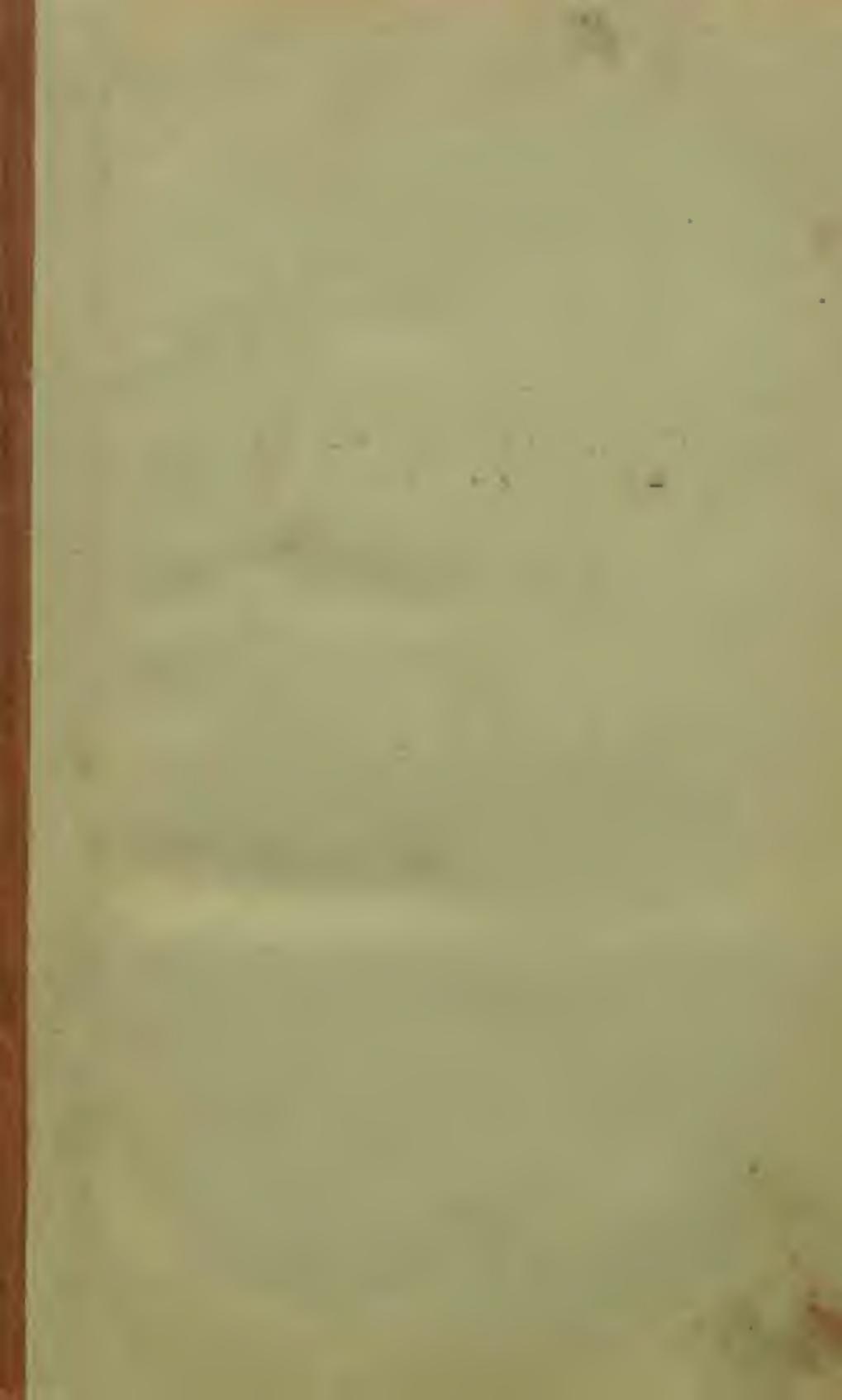


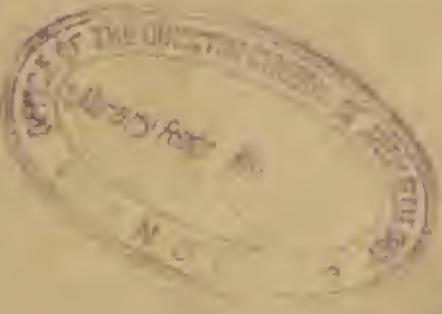
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GAZETTEER

OF THE

KARNAL DISTRICT.

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P R E F A C E.

The first edition of the Karnal Gazetteer was written by Mr. Ibbetson, the Editor of the Series. Mr. Ibbetson settled pargana Karnal and tahsil Panipat, and the information contained in the Gazetteer for that part of the district was very complete. In preparing a new edition in accordance with the orders contained in Revenue Circular No. 62, my chief task has been to supplement Mr. Ibbetson's work by furnishing the necessary details as regards the part of the district, pargana Indri and tahsil Kaithal, which I settled myself. The publication of the work has been delayed by the pressure of other duties.

J. M. DOUKE.

April 1892.

Table No. I. showing the leading statistics.

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Georg.—The area of the tract now included in Kaitai is 120 square miles. The population in 1851 was 27,222. The total area and population of the present district in 1881 were therefore 2979 square miles and 164,010 souls.

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CHAPTER I.

THE DISTRICT.

SECTION A.—DESCRIPTIVE.

1. Karnal, one of the six districts of the Delhi Division, lies between north latitudes $28^{\circ} 0'$ and $30^{\circ} 11'$, and east longitudes $76^{\circ} 10'$ and $77^{\circ} 16'$. It consists of a tract of plain country of somewhat irregular shape, lying on the right bank of the Jumna, including a portion of the valley of that river, and stretching away westwards across the Sarsuti and Ghaggar into the Eastern Plains of the Panjab. It may be roughly compared to a square, with its south-western corner cut off as belonging to the Native States of Jindh, and with the addition of a small projection running up from its north-western corner northwards towards Patiala. It also includes 30 outlying villages scattered about Patiala territory. Its average length and breadth are 34 and 30 miles; its greatest dimension measured along the diagonal from Rastakheria Lakhman on the Ghaggar to Rukhiala on the Jumna is 80 miles. It is bounded on the north by the Patiala State and the Ambala district, on the east by the river Jumna, which separates it from the Sialkotpur, Mianwali, Migar, and Bhera districts of the North-Western Province, on the south by the district of Delhi, and on the west by the Rohtak district and the Native States of Jindh and Patiala. It is divided into three tehsils, of which that of Panipat includes the southern, that of Karnal the central and north-eastern, and that of Kauthal the western and north-western portions of the district.

2. Some leading statistics regarding the district and the several tehsils into which it is divided are given in Table No. I. on the opposite page. The district contains three towns of more than 10,000 souls as follows:—

Panipat	11	11	11	22,922
Karnal	11	11	11	22,123
Kauthal	11	11	11	14,774

The administrative head-quarters are at Karnal, situated in the eastern edge of the district, 5 miles from the river, and upon the Grand Trunk Road 47 miles from Ambala and 73 from Delhi. Karnal stands 12th in order of area and 12th in order of population among the 81 districts of the Province, comprising 2.1 per cent. of the total area, 3.4 per cent. of the total population, and 3.2 per cent. of the urban population of British territory.

3. The latitude, longitude and height in feet above the sea

of the principal places in the district are shown in the margin.

Town	E. Longitude	N. Latitude	Few feet above sea
Karnal	76° 10'	28° 10'	110
Zirai	76° 10'	28° 10'	110
Kauthal	76° 10'	28° 10'	110

* Approximate.

Chapter I, A.
Descriptive.
General Description

Physical confor-
mation.

4. The district is everywhere flat, and lies about 750 feet above the sea, the height probab-

Chapter I. A.**Descriptive.****General description.**

ly nowhere differing from this figure by more than some 20 feet. There is a very gradual fall from the north-east to the south-west. The distance of the water-table from the surface is much affected by the canal and the river. In their vicinity it is seldom greater than 15 feet, and often not more than two or three feet. In the south of Kaithal the depth is as much as 150 feet; on the watershed of the Ghaggar and Sarsuti and also between the canal and Chautang the depth is from 25 to 35 feet. In the outlying villages near Patiala it is about 20 feet. There is no real clay, the soil varying from stiff loam to pure sand. The stiffest loam is found in the hollows and drainage lines, where the action of the water has washed out the sandy particles. It is sometimes known as *dular* and is differentiated by the clods not crumbling in the hand. The sandiest soil is found in the riverine tract, chiefly in patches lying in the beds of old river channels, and in the Powail tract to the north of the Ghaggar, where sand hills blown up by the wind are not uncommon. Sandy land is called *bhuda* in the Khadir and *tibbi* in the Powali. Intermediate soils are classed as *ravali* and vary in quality between the two extremes. Another common division is into *mogra* and *dohr*. The former is the higher land where rain does not lie and the soil is not excessively stiff; the latter the depressions in which rice is grown, and where the soil is very hard.

The Khadir.

5. The tract is divided into two parts by the great backbone of Northern India, which separates the water system of the Indian Ocean from that of the Bay of Bengal. This watershed runs north and south at a distance of from six to twelve miles from the river, and is almost imperceptible to the eye. It runs close under the city of Karnal and thence follows the line of the most eastern of the new canal Itajbalas (No. IV). To the east of, and generally within a mile or two of the watershed, lies the bank which marks the western limit of the excursion of the Jumna. All to the east of this bank is known as the Khadir, and is lowlying riverain tract, with light soil and water close to the surface, and largely in the hands of irrigation cultivators. It is bounded to the east by the broad sandy belt in which the river runs; and the Jumna has swept over the whole of it within comparatively recent times. The drop at the bank is often ten or twelve feet; and the land immediately below the bank is usually somewhat lower than that at the river edge. The general slope southward is about one-and-a-half foot per mile. There is little heavy jangal except on the upper portions of the river where the banks are fringed with jhen; but date-palms and mango groves abound, other trees are scattered about profusely, and the luxuriant cultivation and the frequent wells make the Khadir perhaps the prettiest part of the district.

The Bangar.

6. To the south of Karnal the land lying to the west of the Khadir is called the Bangar. But it is divided into two parts by a well-marked drop which runs from near Karnal in

the north-east to the south-west corner of the district, and is defined almost entirely by the Haini road, which runs along its crest, and the old Rohitak branch canal which flows below it. This drop and the Khadir bank, already referred to, meet a little above the town of Karnal, and it is the triangular tract that lies between them that is more especially known as the Bangar proper, in contradistinction to the Nardak or high tract beyond the drop.* It is watered by the Western Jamuna Canal almost throughout its area. The soil, where not rendered barren by salts or swamp, is stiff and fertile, and it is in the hands of industrious agricultural castes. The general slope is about one-and-a-half feet per mile southwards, and one foot per mile westwards, the slope decreasing as you go south. Where the Bangar, Nardak, and Khadir meet near Karnal, the Nardak drop splits up into several steps which lead imperceptibly from the Nardak to the Khadir, so that the Nardak and the Khadir may be said to meet near Karnal. Mango groves are not uncommon, but other trees are thinly scattered about. As the neighbours say, land is so scarce and valuable that the very ridge between the fields are set up on edge; and the Bangar tract is for the most part a sheet of cultivation, interspersed with great swamps and large barren plains covered with saline efflorescence. The Indri pargana, which lies to the north of Karnal, is divided into Khadir, Bangar, and Nardak. The Bangar is the tract between the canal and Chautang where well cultivation is largely practised and the soil is better than in the Nardak beyond the Chautang.

7. To the west of the Chautang end of the drop, described in the last paragraph, lies the Nardak, another name for the Kurukshetra or battle-field of the Pandavas and Kauravas of the Mahabharata, which lay on this great plain. It consists of a high table-land which runs away with ever-increasing acuity towards the passes of Hariana which are locally known as the Bagar. Its limits may be defined by a line drawn from Thanesar to Tis, thence to Saldon in Jindh, thence to Karnal, and from Karnal round again to Thanesar. To the west of the Nardak proper, but forming part of the same great table-land is the Kaithal Bangar, including some 60 villages of the Kaithal and Kuthian parganas. The soil of the Kaithal Bangar is usually a strong loam, but it is lighter on the whole than that of the Nardak. But the tribal distinction is more important. The haul-owners are mostly Jats in the Bangar and Rajputs in the Nardak, the larger areas of waste which the Rajput keep up are very rarely found in the Bangar, and notwithstanding its untractable soil and the fact that irrigation is rarely possible two-thirds of the culturable area is under tilage. The Nardak proper is a high acid tract with water at great

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The Bangar.

The Nardak and
Kaithal Bangar.

* Bangar is locally used, with a purelycriptive meaning, for higher and more acid land. Thus a village in the Khadir will call a high-lying portion of its area the Bangar.

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Descriptive.
 Nardak and Kail
 th Bangar.

depths, having about $\frac{1}{3}$ rd of its area cultivated and little irrigation. It is largely occupied by cattle grazing Rajputs, but there is an admixture of industrious Rors. In the north of the Nardak or the part of it which is included in the Indri and Pehowa parganas, Rors form the most important element in the population, and, partly on this account and partly because the water level is not there too deep to prevent hardworking landmen from using wells, cultivation is more largely extended than in the Kainal and Kalital Nardak. The Nardak is conspicuously a grazing country consisting of high open plains covered with dal, sand, and kair and affording excellent pastureage in years of good rainfall. Thunk is abundant in parts, especially in drainage lines. The large trees are almost entirely of the dg tribe. The uniformity of the grassy glades is broken by cultivation and by local holmies (khular) fringed with shuk and pipal, in which water collects and promotes a dense growth of coarse grasses. Only a few estates in the south of the Nardak and Kailth Bangar are at present irrigated from the Hensi branch of the western Jumna Canal, but the projected Sircsa Canal and Rajbharia No. 1 from the main Canal will protect a large part of this tract from the droughts which have made its cultivation so insecure.

8. The unhealthy country in the north of the Kailthal taluk inundated by the capricious floods of the Saristi, Umla, and Ghagar is known as the Nulli.

The Nulli of the Umla and Ghagar is chiefly owned by Jats, and the Saristi Nulli by Rajputs. But though the former has a better agricultural population its natural advantages are less, and, owing to disease and over-investment, the condition of the population has been a very miserable one. In the Umla villages, nearly the whole of the flooded land consists of bare daur, in which coarse rice is the principal, and often the only crop. The grazing is miserably poor. In the Ghagar Nulli, the flooded land is partly daur and partly stiff loam. Owing to the extreme uncertainty of the floods, cultivation is rough and intermittent, and the troublesome dab grass is very imperfectly cleared out. The floods of the Saristi are most capricious, but not so utterly uncertain as those of the other two streams. There are two recognized soils in the Saristi villages, Dahan and Kat. Dahan is flat lowlying land which yields rice followed by a poor crop of gram in a good year. The rice is very liable to be drowned, but lies higher and consists of a stiff loam which in its natural state is covered with shuk and dal jangal mixed with scattered pipals. As a rule the kat does not yield autumn crops and the tillage for the Babi is perfectly rough, for the land can only be ploughed at all immediately after a heavy flood. If once the surface dries, nothing can be done with it. If the kat is well flooded at the close of the summer rains and the winter rains do not fail, it yields excellent crops of grain.

jutehans, and even wheat. There is much more *kari* than *dahar* in the Saruni villages, and two-thirds of the crops belong to the spring harvest. There is abundant *casuarina* dahi and paani grazing, and in the winter season grass of a sort is to be got.

9. A small upland tract between the Saruni valley and the Ghaggar is called the Andherwar. The soil is similar to that in the Baugur, but well-irrigation is largely practised. The uncultivated land is of the poorest quality and yields little grass. In the north of the Ghaggar is the Powadh with a light loam soil and many wells.

10. The Jamuna meets the district at Chauganwa, and thence forms its eastern boundary for 70 miles till it passes on to the Delhi district. Its bed varies from half-a-mile to a mile in width, of which the cold weather stream only occupies a few hundred yards. The bed is, of course, sand throughout, and the subsiding floods leave sand banks which change annually. The banks vary immensely in character. Where the river has at one time swept over the spot where the bank now stands the edge is low and sandy; where, on the other hand, the stream has gone round the piece of land which now forms the bank, the latter is perpendicular and often 20 to 20 feet high. In the southern portion of its course the banks are for the most part high and well-defined. Generally speaking, the shelving banks are cultivated; they yield, however, a minimum of produce. The higher banks are fringed with dense jham jungle on the upper portion of the stream. But from Panipat downwards they are cultivated up to the very edge; and their fall often means ruin to individual land-owners. The Jamuna is by no means so capricious in its course as are the Panjab rivers. The present tendency of the river is very slightly to the eastwards; and it has, within the last few years, changed its channel just below Karnal, so that eight villages formerly lying to the east of it are now included in the Karnal district. Its present action is almost wholly for the bed. Its floods deposit sand for the most part; and the thin skin of leach that sometimes covers it requires a long course of self-sown jham before it is worth cultivating.

11. The Khadir, especially in the northern part, is much cut up by old river channels (*khatas*), and when the Jamuna is in flood, the water passes down these channels into the lower land and does much harm by flooding the fields. The largest of these channels runs almost directly under the Khadir bank, and is known as the Burhi Nadi, or Ganda Nala. It receives the drainage of the Baugur east of the watershed, and often swamps the country round. The Parax is an old bed of the Jamuna which leaves the present river at Hindawali and flows S.-W. passing through Knojpur. Below Chikpra it turns due S. and finally rejoins the Jamuna. The Buddhabhawan Canal ^{Minor drainage} meets the Parax at Chikpra and the villages

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Descriptive.
The NadiThe Andherwar and
Powadh

The Jamuna.

Nada.

Chapter I. A.

Descriptive.

*Main drainage
area.*

below the junction have deteriorated very much from overflooding. At the date of the battle of Panipat (1761 A.D.) the Puran was the main bed of the Jamma. In the Bangar the principal drainage is that running under the Nardak bed and occupied by the old canal, and, in its lower course, by the Rohitak branch. Minor local drainages intersect the area between this and the watershed, and empty into this main drainage; but they are very broad and shallow, and are often only perceptible by their effect upon the cultivation. The Rakshi has its origin in the north of the Jagannath Taluk of Ambala. Before it reaches the border of Kurmi, most of the water is diverted into the Chautang, and in Kurmi the Rakshi is now a very insignificant stream whose bed has in many places almost entirely disappeared. The Naî Nadi which runs through Tornori in the Indri pargana and which can be traced through the Nardak as far as Salwan in the S.E. of Kaithal is probably the old bed of the Rakshi. But most of the water that reaches it is now derived from a channel which leaves the Chautang at Nilokheri and joins the old Rakshi at Narana.

*The Chautang.**

12. The Chautang is formed by the junctions of two sandy torrents which rise in or near the hills and unite at Balchhaper in the Jagannath taluk of Ambala. After crossing the eastern part of the Ambala district it enters Kurmi at Jhinwarhuri. Still higher up its water has been diverted into the Sarasi. On the other hand the Rakshi has been turned into the Chautang a few miles beyond the Kurmi border. Its course is south and south-west. At first it skirts the edge of the Bangar and Nardak, but lower down it runs through the heart of the Nardak, and is finally taken up by the Hansi Canal which occupies its lower bed all the way to Hansi and Hisar. For the first few miles after it crosses the Kurmi border, it flows in a broad and shallow sandy bed, but its channel soon assumes the canal-like appearance characteristic of hill streams which have dropped all their silt. The straightness of part of its bed and the fact that in Kurmi it has practically no catchment basin, and at first runs nearly along the crest of the watershed which divides the Bangar and Nardak, give some colour to the tradition that it is an artificial channel and formed part of the old imperial Canal system. In the Nardak its banks are generally fringed with dense jangal in which a leopard was shot in 1871. In Kaithal the course of the Chautang is often only marked by a slight depression on the surface of the country, but doubtless it was once an important stream, for Mr. Donist found near its banks in Thal an old well re-excavated, in which the water level is now 150 feet, but the old masonry cylinder only went down to a depth of 50 or 60 feet.

* This stream is identified by Mr. Martin with the amnus Drishabali. He makes the Kurmi stream lie outside the Sarasi and Drishabali beds, while the Mahabharat places it between the two rivers. The Kurmi is very commonly identified with the Ganges; and by others including General Cunningham, with the Rakshi.

13. The north-west portion of the district is traversed by the Ghaggar and its tributaries, the chief of which are the Umla and the Sarassi. In the Ambala district the Ghaggar has a wide sandy channel, and deposits fertilizing silt. By the time it reaches the Kaithal border it has dropped nearly the whole of its silt, and its waters find their way along various old channels and finally join the Ghaggar near Bhagat. The Ghaggar flows west and south-west near the northern border of the Kaithal taluk to Ratnachera, Lohkota where it is joined by the Patiala Nadi. Below this point it flows south or near the boundary of Kaithal, which it re-enters at Uriam. A mile or two lower down it leaves the district finally, and soon after is joined by the Phur branch of the Sarassi. At Bhagat, the Ghaggar is very wide and deep, and rarely overflows its banks, but further west the channel is not quite so large, and in favorable years a considerable number of villages is flooded. The inundations are utterly disastrous. The Ghaggar has two important tributaries in Kaithal, the Untewali and Patiala Nadi. The former has two branches, one running to Kuhrau in Patiala, and the other to Arjauli in Kaithal, and thence through the north-east corner of the Nali, till it joins the Ghaggar at Dhandawata. The Patiala nadi takes its name from the fact that it passes close to the town of Patiala. Thence it flows south through the Powadhi tract till it joins the Ghaggar. A channel known as the Puran, or old-Ghaggar, leaves the present stream at Dhandawata, and runs north-west to Gula, where it splits into two branches, one going west and the other south-west, and both ultimately rejoining the Ghaggar. Its bed is much silted up, and it is difficult to believe that the Ghaggar once flowed in it. But there is no doubt of the fact, for we know from history that Timur's army in 1398 or 1399 crossed the Ghaggar by the curious old stone bridge at Gula (Elliott's Indian Historians, Vol. III, page 430). All accounts show that 50 years ago the Ghaggar was much smaller and shallower, and therefore more easily controlled than it is now. A bandi was put up by the Sikhs every year at Tatiana, which must have done much to secure the proper flooding of the villages depending on the Puran, which are now in a very depressed state. The work of dredging the first five miles of the Puran has now been carried out, and this will probably do a good deal to help the Ghaggar Nali, a wretched tract which fluctuates between drought and drowning. There is a ferry over Ghaggar at Tatiana, but boats are only required for a few months in the year.

14. The Sarassi, the most sacred river in Northern India after the Ganges, does not rise in the hills, but begins in a large depression in the north of the Mustafabad pargana of Jagadhri. For the first 20 miles of its course, it is utterly insignificant, its channel being frequently only marked by a shallow depression on the surface of the ground, and being often lost entirely. Like the Brahmins who trade on its sanctity, it lives on the

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Descriptive.
Umla and Ghaggar.

The Sarassi.

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Descriptive.
The Sarasi.

contributions of its neighbours. It is only after the Chaudang joins it at Bhaini that it acquires continuous character, and is worthy of being called a stream. The Choya, the Betan, and the Linsik, which are probably old channels of the Markanda, join, and the united stream, known as the Landa, falls into the Sarasi near the border of the Karnal district. A few miles lower down at Urnai, the Markanda pours its waters into the Sarasi. This channel cannot contain the heavy Markanda floods, and in the rains the country to the east of Pehowa is converted into a great lake. At Pehowa the channel again becomes well defined, and thence it runs west and south-west to the border of Patiala. Near Pehowa a large dam diverted the water into the Birkarwala Khaod, a channel originally dug by Bhai Lal Singh to feed the sacred Birkar tank at Knial. This embankment, which did much damage to the lower Sarasi villages, was opened a few years ago. At Gildera a branch known as the Baha strikes off to the south-west, and its water is prevented from returning to the main channel by a strong earthen dam, or rather series of dams, erected at Mangra, and forced over the lands of the Nali villages in the neighbourhood of Nawach. The old bed of the Sarasi has become silted up at Gildera, and is four feet above that of the Baha, the size of which has increased of late years. The Baha now takes all the water in small floods. The result is that the seven or eight Nali villages seldom lose their spring harvest, but the people inhabiting them are rapidly dying out from the effects of over-flooding. The Lower Nali villages, on the other hand, do not get their fair share of the water except in good years when every body has as much as, or more than, they want. At Kakewar, a few miles lower down, an important channel takes off to the north-west and fills the great jhd between Pupar and Kukheri. The overflows of this marsh run down a shallow bed known as the Nal Nali into another large jhd in the south of Bhuna. This in its turn spills in high floods into the Thura, which will be noticed presently. The main channel continues to run westward and passes through the north of the great Rajput state of Siram, for the irrigation of which an important embankment known as the Pohi Band, is thrown across the bed of the stream. Near this band there are remains of an old bridge, which Timur must have crossed on his march to Delhi. At Sair, a mile or two lower down, a branch called the Phara breaks away to the north-west, and, after following a winding course for ten or twelve miles, leaves the taluk at Khurak and soon afterwards falls into the Ghaggar. The bed of the Phara at its mouth is not large, but, besides the water taken direct from the Sarasi, it receives the drainage of the whole valley to the north of that river, and, before it quits the taluk, it is a very deep and wide stream of the same character as the Ghaggar itself. It has become much larger since last settlement, and is now in fact the main channel, and in high floods is a violent torrent which it is very difficult to control. Ten or eleven of the Nali villages depend on the Phara, and

its affluent, the Baha, but their irrigation is a hard problem, as it is difficult to prevent all the water from escaping usually into the Ghaggar. Even in ordinary floods the Phars would draw off the whole of the Sarusti water, were it not for a small knucha dam called the "Bawali" that is, "mad," thrown across its mouth. The maintenance of this embankment is of great importance for the irrigation of the estates, about ten in number, on the lower Sarusti, but it is often broken by the force of the floods. Below Sair the Sarusti proper has a very petty channel, and on the Patiala border its bed consists of a depression a foot or two below the surface of the country, and an insignificant embankment at Andhili, known as the Belak bank, prevents any water from reaching the Patiala villages in ordinary years. The irrigation on the Sarusti is managed by a system of dunes and cans. Above Siwan there is usually enough water to fill the cans and flood the lands without blocking up the main stream. But below Siwan, almost every estate has its own little dam thrown across the channel to force water into the cans. A good deal could be done by local effort to improve the present wasteful system of irrigation and to check the disease consequent on water logging.

15. The drainage of the central portion of the Karnal and Patiala taluks finds its way into the Chautang. To the east of this the country falls towards the Jamna and the old Western Jamna Canal and its minor branches, cutting the lines of drainage at right angles, caused extensive swamping. (See also in Appendix). Thus the old canal was fringed by an almost continuous series of jhils of large extent, many of which retained water throughout the year. They were not of sufficient importance to be dignified by the name of lakes, but were of quite sufficient size, very seriously to diminish the capabilities of the villages on whose lands they treachered. The land on the edges was extensively cultivated with rice, and, when the water neither rose so high as to drown the young plant, nor fell so low as to leave it to dry up, heavy crops were obtained. The draining of these swamps has been undertaken in connection with the re-alignment of the old Canal and the ultimate result should be a great improvement in the health of Canal villages. The *jhils* formed by the spill water of the Sarusti have been noticed in the last paragraph.

16. The Western Jamna Canal* enters this district from Ambala about 25 miles north-east of Karnal. It flows below the bank which separates the Khadir and Bangar, as far as Ludri, where the new line enters the Bangar. The old Canal ran

**Chapter I. A.
Descriptive.
The Sarusti**

Jhils, and swamps.

*The Western Jamna
Canal.*

* The history of this canal is given at length in the Provincial volume of the Gazetteer series. See also Appendix to the present work.

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The Western Jams
Canal

through the Khadir to a point four miles below Karnal, where the Grand Trunk Road crosses it by an old Mughal (Budshahi) bridge, and the canal itself enters the Bangar. From this point it held a south-west course for some 18 miles till, near the village of Rer, the flanking branch struck off westwards *via* Saffron, and, neenpying the bed of the lower Chautang, flowed on to Harsid and Hisar. From Rer the Dholi Branch ran south to Dholi. About ten miles below Rer, another branch struck off south-westwards towards Rohtak, and a few miles beyond this, just upon the confines of the district, a third branch went to Dureea. The main line as now remodelled runs through the Bangar from Indri to Muank crossing the Grand Trunk Road a few miles to the north-west of Karnal. It splits at Muank into two branches, the one running to Dholi and the other to Harsid and Hisar. The important Rohruk and Butana branches take off from the Harsid Branch. All of these branches are used for irrigation in the district, and channels from one or another of them penetrate to all parts of the tract described as the lower Bangar. It would appear that the canal was first taken to Harsid by Firoz Shah in 1355 A.D., and carried on to Hisar next year; and that he took share, or 10 per cent, in the yield of the irrigation in water rate. But it very quickly ceased to run as a canal; for Timur, in 1398, must have crossed its channel between Panipat and Kaithal; and his very minute itinerary makes no mention of it; while Babur, 200 years later, expressly stated that there were no canals west of the Jumna. In Akbar's time Shahabuddin Ahmad Khan, Governor of Dholi, repaired it. In 1648 Shah Jahan again set it in order, and carried it on to Dholi for his Lal Kila. In 1732 Nadir Shah found it in full flow; but it must have ceased to run almost immediately after this, in the terrible times that followed his invasion, and when *au* took the country in 1805 it had long silted up almost entirely.

In 1815 its restoration was begun; and the Dholi branch was opened in 1829, since which date its irrigation has steadily extended. An account of the growth of irrigation and of the attendant evils is given in the Appendix while the history of the canal as a whole is fully described in the Provincial volume of the Gazetteer. The effect of the old Western Jams Canal for good and evil upon the tract which it traversed were great beyond description. While it brought prosperity to the people as a whole, and saved them from the horrors of famine which will presently be described, it, partly by its faulty alignment, but perhaps even more by placing within their reach water which they had not the wisdom or the knowledge to use sparingly, brought ruin to too many. The description given in the Appendix will show how terrible that ruin has been. In 1867 it was decided to re-align the canal and its distributaries; but for various reasons the scheme hung fire. An estimate for remodelling the canal amounting to 72 lakhs was sanctioned in

1874. This was increased to 97 lakhs in 1877, and 102 lakhs in 1881. In 1885 a full supply was carried in the new main channel, and by 1888 the head works and most of the works on the canal itself and its principal branch had been finished. The new distribution and the drainage works are only now being completed. A large distributary (Rajbha No. II) will be carried through the Karnal and the west part of the Raithal Nerdak, affording protection to one of the most insidious parts of the district. The first suggestion that a branch of the Western Jumna Canal might be carried to the arid uplands of Raithal was made by Major (afterwards Sir) Henry Lawrence in 1842, but the project for the construction of a canal from Indri to Sirsa has only recently been taken in hand. The estimate which amounts to 42 lakhs, was sanctioned in 1889. The canal will command an area of 1273 square miles, of which 410 are in Karnal, 355 in Patiala, and 508 in Hissar. 21½ per cent. of the area commanded will be irrigated, and the annual addition to the irrigated area in Karnal may be expected to exceed 50,000 acres, nearly the whole of which will be in the Raithal uplands. The Sirsa branch is principally designed for the irrigation of autumn crops, but there will in ordinary years be sufficient water to prepare a considerable area for the rabi, and in years of heavy rainfall, when the demand during the winter months is slack on the present canal, the water, which would otherwise run to waste, will be readily taken in Raithal and Hissar. The irrigation of rice crops from the Sirsa Branch will be forbidden, and it is to be hoped that this prohibition will be rigorously enforced. It might be extended with advantage to the Nerdak Rajbha No. I from the Main Canal.

17. The Choya branch of the Sirhind Canal has been carried through the Powndh, a tract already rendered by wells, and where Canal irrigation is likely to do much more harm than good.

18. The average rain-fall at Karnal is 31 inches, and at Panipat 26, and at Raithal 17 inches. The fall rapidly decreases as we go southwards, and eastwards. The Kaliabie receives the most plentiful and most frequent rain, many local showers following the course of the river. Table No. III shows in inches or an inch the total rain-fall registered at each of the rain-gauge stations in the district for each year, from 1866-67 to 1888-89. The fall at head-quarters for the four preceding years is shown in the margin.

The distribution of the rain-fall throughout the year is shown in Tables Nos. IIIA and IIIB, and in more detail in the figures inserted below; while the average temperatures for each month from 1870 to 1878 are shown below in degrees Fahrenheit.

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Descriptive.

The Western Jumna
Canal

The Sirhind Canal

Rain-fall, tempera-
ture, and climate

Year	Rain-fall in inches
1866-67	26
1867-68	26
1868-69	26
1869-70	26

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Descriptive.

Rain-fall, temperature, and climate.

Average of the thermometer (Fahrenheit) for the year 1870-73, recorded in the west verandah of the dispensary at Karnal.

Month.	At Surface		At Noon	
	Maximum	Minimum	Maximum	Minimum
January	54	45	72	54
February	54	50	77	52
March	71	59	84	72
April	50	43	69	53
May	86	70	100	81
June	91	78	104	89
July	93	77	102	87
August	85	62	97	83
September	84	78	90	80
October	76	63	96	77
November	61	45	73	70
December	43	31	74	63

Rain-fall at Karnal in inches.

YEAR	Rain-fall.												Total snowfall in rain. inches of Gauḍa Depart- ment as registered at Karnal.
	April	May	June	July	August	September	October	November	December	January	February	March	
1862-63	0.1	—	0.7	14.0	8.6	12.4	0.2	0.1	—	1.9	1.0	23.2	—
1863-64	0.3	—	7.1	23.6	10.1	2.6	0.2	0.2	0.2	0.2	0.2	18.2	—
1864-65	0.9	1.0	0.8	2.4	9.6	2.4	—	0.1	0.1	1.2	1.2	21.1	22.9
1865-66	0.5	0.4	1.0	4.7	11.0	4.0	—	0.1	0.2	0.4	0.4	22.1	27.0
1866-67	0.8	0.4	2.2	6.9	4.7	0.2	0.2	—	0.2	0.2	0.2	12.1	16.2
1867-68	0.6	0.6	2.1	7.0	12.1	2.6	—	0.8	1.8	1.9	1.0	20.0	22.0
1868-69	0.1	0.1	1.1	4.0	0.1	1.6	—	—	0.1	1.1	1.2	16.1	18.1
1869-70	—	—	0.9	2.1	0.1	0.1	—	—	—	0.5	0.5	18.0	19.0
1870-71	0.7	0.6	8.2	3.1	6.8	0.1	—	—	1.1	1.6	—	22.1	25.0
1871-72	0.4	1.9	9.1	21.1	8.9	1.4	—	—	0.2	4.8	0.1	66.8	68.1
1872-73	0.2	0.6	3.2	12.7	7.3	2.1	0.1	—	0.2	0.6	0.1	22.0	31.2
1873-74	—	0.1	1.3	20.7	7.2	0.1	0.2	—	0.5	0.1	1.6	47.8	50.2
1874-75	—	1.1	7.0	18.7	8.4	2.1	—	0.2	0.2	0.7	—	40.1	43.7
1875-76	—	2.4	0.4	7.0	8.4	14.1	—	—	—	—	2.0	35.1	37.1
1876-77	0.8	1.2	0.2	2.2	3.2	1.6	1.1	—	—	2.7	3.0	1.1	21.2
1877-78	0.8	0.6	0.8	2.7	0.8	0.8	2.1	0.4	2.1	1.9	1.6	0.6	24.0
1878-79	1.6	2.0	0.1	2.8	10.2	1.8	—	—	0.2	—	0.9	0.6	31.3
1879-80	—	—	3.2	6.1	3.1	1.1	—	0.3	0.1	2.8	—	22.0	22.8
1880-81	—	0.6	10.6	12.1	0.7	1.6	—	0.1	0.2	0.2	1.9	21.6	24.6
1881-82	0.6	1.4	3.1	8.2	7.0	—	—	—	—	2.7	2.0	—	25.0
1882-83	1.7	0.7	2.6	7.4	5.1	3.1	—	—	0.1	1.4	2.0	21.6	27.2
1883-84	—	1.1	2.1	2.0	0.7	7.6	—	0.7	0.1	—	0.6	17.6	18.7
1884-85	0.1	1.1	5.7	2.0	1.9	7.6	—	—	0.1	3.4	0.7	0.4	44.7
1885-86	0.2	2.2	7.9	10.0	2.5	0.1	—	—	1.2	2.1	0.2	31.6	31.1
1886-87	0.4	2.0	7.1	13.4	4.4	0.2	0.6	—	0.6	0.7	—	22.4	24.0
1887-88	—	0.8	16.0	14.7	10.7	1.0	—	—	0.6	2.1	0.2	65.7	67.2
1888-89	0.4	1.1	0.4	13.2	6.0	11.4	0.7	0.8	—	1.6	1.2	34.7	35.4
Average	0.6	1.1	2.5	9.3	4.0	4.9	0.4	0.1	0.6	1.8	1.1	10.7	24.7

19. Tables Nos. XI, XI A, XII B and XII C give annual and monthly statistics of births and deaths for the district and for its towns during the last 18 years; while the birth and death rates since 1868, so far as available, will be found in Chapter III, A, for the general population, and in Chapter VI under the heads of the several large towns of the district. Table No. XII shows the number of insane, blind, deaf-mutes, and lepers as ascertained at the census of 1881; while table No. XXXVII shows the working of the dispensaries since 1877. The Civil Surgeon (Dr. Cookson) thus discusses the disease and sanitation of the district:—

"Malarial fevers, dysentery, and enlargement of the spleen are the most prevalent diseases. Stone in the bladder is not uncommon. Ophthalmia, syphilis, and itch are very common in the towns. Sorey, leprosy, and elephantiasis are very rare; guinea worm and tape worms occasional. In the winter months there is much pleurisy; pneumonia and bronchitis are also prevalent at that season. Asthma is very common, particularly among tradesmen, as the weavers and silver-smiths suffer much. The malarial fevers are the worst in those parts of the district where rice cultivation is carried on, and where there are extensive marshes; thus, the dwellers near the chain of swamps caused by the Western Jumna Canal, and the inhabitants of the tracts every year flooded by the Sarusil, are the greatest sufferers. Something has been done towards improving the large towns, and there is a perceptible fall in the death-rate. In the rest of the district, with the exception of a few dams for retaining drinking water for cattle, I have not seen any works of the improvement of their land done by the owners; and those works, which in civilized countries have been done by successive generations of occupiers for the improvement in value and healthiness of their holdings, all remain to be done. Enlargement of the spleen is, when excessive, usually accompanied by sterility."

The dwellers in the over-flooded tracts have a miserable physique, and it is probably only due to their marriage customs, which favour the introduction of new blood, that they continue to exist.

SECTION B.—GEOLOGY, FAUNA AND FLORA.

20. Our knowledge of Indian geology is as yet so general in its nature, and so little has been done in the Panjab in the way of detailed geological investigation, that it is impossible to discuss the local geology of separate districts. But a sketch of the geology of the Province as a whole has been most kindly furnished by Mr. Medlicott, Superintendent of the Geological Survey of India, and is published in extenso in the Provincial column of the Gazetteer series, and also as a separate pamphlet.

21. The only mineral products are kaolite and sal ammoniac; the former is plentifully found in most parts of the district, generally in the nodular form, but occasionally com-

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not mentioned.

sold into blocks. Sul ammonium is made only in the Kaithal tehsil; and the following account of its manufacture is taken for the most part from Mr. Baden-Powell's *Punjab Products*.

22. Sul ammonium or *naukhadar* is, and has been for ages, manufactured by the *kumhars* or potters of the Kaithal tehsil. The villages in which the industry is carried on are as follows:—Manna, Guimhals, Siyana, Sojjan, Bauna, and Bindra. About 2,300 mounds (24 tons) valued at Rs. 24,500 are produced annually. It is sold by the potters to the Mahajans, who export it to Bhiwani and Delhi, to Farenkhabad and Mirsapur in the N.-W. Provinces, and to Ferozepur and Amritsar in the Punjab, and who also sell it after sublimation on an average at Rs. 15 per mound.

The salt is procured by submitting refuse matter to sublimation in *clay* vessels, in the manner described below, which is similar to the Egyptian method. The process is as follows:—From 15 to 20,000 bricks, made of the dirty clay or mire to be found in certain ponds, are put all round the outside of each brick kiln, which is then heated. When the said bricks are burnt, there exudes and adheres to them the substance from which *naukhadar* is made; this malleable is produced by the heat of the kiln in the hot weather in three days, in the cold weather in six; in the rains no *naukhadar* is made. On the bricks producing this substance, which is of a grayish colour, and resembles the bark that grows on trees, they (the bricks) are removed from the kilns, and, when cool, this crust is removed with an iron scraper or other such implement. The substance which is thus produced, is of two sorts; the first kind, which is most abundantly produced, and is inferior, is designated the *mitti-kham* of *naukhadar*, and the yield per kiln containing 15 to 20,000 bricks is about 20 or 30 mounds; it sells at 8 annas per mound; the superior kind, which assumes the appearance of the bark of trees, is called *pajri* and the yield of it per kiln containing 15 to 20,000 bricks is not more than 1 or 2 mounds; it is sold at the rate of Rs. 2 or 2½ per mound. The Mahajans who deal in *naukhadar* buy both the sorts above described; but each sort requires special treatment to fit it for the market. The *kham* malleable is first passed through a sieve, and then dissolved in water and allowed to crystallize. This solution is repeated four times to clear away all impurities. When this has been accomplished, the pure substance that remains is boiled for nine hours; by this time the liquid has evaporated, and the resulting salt has the appearance of raw sugar. The *pajri* is next taken and pounded finely, after which it is mixed with the first preparation, and the whole is put into a large glass vessel made expressale for the purpose. This vessel is globular, or rather pear-shaped, and has a neck 2½ feet long and 9 inches round, which is closed at the mouth, or, more properly speaking, has no mouth.

The composition to be treated is inserted into this vessel by breaking a hole in the body of the vessel, just at the lower end of the neck. This hole is eventually closed by placing a piece of glass over it. The whole vessel (which is thin black coloured glass) is incased over with seven successive coatings of clay. The whole is then placed in a large earthen pan filled with *naukhadar* refuse to keep it firm; the neck of the vessel is further enveloped in a glass cover and plastered with fourteen different coatings of clay to exclude all air, and the whole concern is then placed over a furnace kept lighted for three days and three nights, the cover being removed once every twelve hours in order to insert fresh *naukhadar* in the form of raw sugar, to supply the place of what has been sublimed. After three days and three nights the vessel is taken off the furnace, and when cool, the neck of it is broken off, and the rest of the vessel becomes calcined. Test it twelve days, according to the size of the neck of the vessel containing the *naukhadar*, are then obtained therefrom, of a substance which is designated *phali*. This *phali* is produced by the sublimation of the salt from the body of the vessel and its condensation in the hollow neck. There are two kinds of *phali*; the superior kind is that produced after the *naukhadar* had been on the fire for only two days and two nights, in which case the neck is only partially filled with the substance, and the yield is but 5 or 6 mors, and sold at the rate of Rs. 16 per mors; the inferior kind is where the *naukhadar* had been on the fire three days and three nights, and the neck of the vessel is completely filled with *phali* when it yields 10 or 12 mors, and the salt is sold at Rs. 18 per mors. That portion of the sublimed *naukhadar* which is formed in the mouth and not in the neck of the vessel, is distinctively called *phul*, and not *phali*; it is used in the preparation of *surma*, and is esteemed of great value, selling at Rs. 40 per mors. Each furnace is ordinarily of a size to heat at once seven of these large glass vessels containing *naukhadar*. *Naukhadar* is used medicinally, and as a freezing mixture with nitre and water; also, in the arts, in tinning and soldering metals and in the operation of forging the compound iron used for making gun barrels by native smiths.

23. The dense jungles in the northern parts, and the presence of the canal with its attendant *shikhs* towards the south, make Karnal an unusually good sporting district. Throughout the jungles of the Kaithal high-lands and bordering on the Jindh territory, black buck, *wilga*, and *chikara* abound. The first, in fact, is common throughout the district, frequenting the cultivated parts while the crops are sufficiently young to tempt it there, and retreating to the thickets during the interval of sowing and harvest. In Kaithal black buck are especially numerous and no infinite miseries. The *wilga* and *chikara*, on the other hand, are only found in the denser jungles, notably on the banks of the Chantang, never appearing in the lower and cultivated lands. The hog-deer

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Wild animals : sport.

is not infrequent in swampy parts and along the river; and pigs abound wherever there are shift for them to root in. Grey partridges swarm throughout the jungles, and, in smaller number, in the cultivation, though it is a peculiar fact that they are never found in any Khadir village the area of which is subject to inundation by the river. Black partridges are occasionally found on the banks of the canal and its distributing channels, but they would appear to be dying out here, as in all parts of the Panjab. Jordou mentions a bag of 75 brace made by one gun near Karaul; nowadays, one seldom flushes more than 9 or 10 in a day's shooting. Tinay are still numerous, however, on the banks of the Ghaggar. Hares are general but not numerous; they seem to affect the kair jaugal by preference, and are most frequent on the slope from the Nardak to the lower Bangar. Peafowl abound alike in the cultivated and in the jungal villages, and the blue rock pigeon is everywhere extremely common. The small sand grouse is found on the upland fallows. Bush quail are scattered sparsely over the district, and rain quail abound in the bajra fields after the crop has been cut: the large grey quail comes, as usual, with the ripening wheat, but the vast area under wheat crops, due to the presence of canal irrigation, diminishes their apparent numbers. But it is in waterfowl that the district stands conspicuous. As soon as the rice crops appear above the water, every jhil is crowded with geese and ducks, whose constant quacking, the villagers say, at first renders sleep next to impossible, and the fowl very seriously diminish the outturn of rice. The scaling-wax bill, pintail, mallard, pinkhead, shoveller, teal, and gosam teal are the common ducks. The grey goose is to be found in hundreds on the larger marshes, and the black barred goose is to be seen on the river. Full and jack snipe abound in the old rice fields, and 4 or 5 painted snipe are shot yearly; while pelicans, ibises, cranes of many kinds, herons, bitterns, and many sorts of waders cover jhils, the sarus and kunj being particularly numerous.

The excellency of the shooting lies in its diversity; you may shoot deer at dawn, partridge and hare in the early morning, duck and snipe during the hotter hours, and pick up a peacock on his way to roost for the night as evening calls you home. Perhaps such enormous bags are not to be made here as in some other districts. But you can hardly go anywhere without finding game moderately plentiful at your tent-door, and often in great variety.

In old times lions and tigers were not uncommon in the tract. The Nardak was a favourite spot for the old Emperors to hunt lions in; and as late as 1827, Mr. Archer says that lions were sometimes seen within 20 miles of Karaul; while tigers were exceedingly numerous in its immediate vicinity, one having carried off a fakir at the Imperial bridge where the Grand Trunk Road crosses the old canal, only a few days before his arrival. He describes Karaul as "situated in a large plain but

recently recovered from the tigers," and Thornton, writing in 1831, says that "a few years ago the jungles were infested by tigers, which are now rarely met with except further to the west," and gives several authorities in support of his statement. At present leopards are only occasionally found in the jhum jungles along the river, or in Nardak scrub. Wolves are common all over the tract, especially in the Nardak, where goats and sheep abound. Rewards for their destruction on the average amount of Rs. 450 have been paid for the last 15 years, rising as high as Rs. 1,270 in one year. The reward is Rs. 5 per head. Jackals abound, and do an immensity of damage to the crops, especially to maize, which can hardly be grown in some parts, as the jackals "don't leave even the bones." Wild pigs are common, chiefly on the river edge and along the Nardak drainages, and they too do great harm to the crops. The means adopted to protect the crops from wild animals are detailed under the head of agriculture in Chapter IV. But of all animals the common red monkeys which swarm all along the canal are the most destructive, doing almost as much mischief to the hedges as in the fields, and there is no way of keeping off these sacred pests.

The swamps which abound in the canal tract swarm with grey geese, duck, snipe, and waders of all sorts in the cold season. Chirauras or bird-catchers from the east fix long low nets across the swamps at night, and, frightening the ducks into them, net immense numbers which they sell at Ambala and Shal.

24. Crocodiles, all of the blunt nosed or true crocodile genus, abound in the river and along the canal and attendant swamps. They frequently attack and kill young cattle, but no really authenticated case of their having attacked a man seems to be discoverable, though in most villages they tell you that this has actually happened in some other village. The venomous snakes are the krait, which is very common indeed, the cobra (*Naja naja*) and the Russel's viper, which are less so, and the cobra *cavifrons*, which is not often seen.

Sauvages and reptiles.

25. Fish abound in the Jammu, in the swamps along the canal in most of the village ponds. They are caught by *Shikars* and by a few Moors, and are largely eaten by the middleman of the cities, and by lower castes in the villages.

Fish.

26. The tables on the next page include the commoner of the trees and shrubs, and such herbs as call for notice. This is taken from Mr. Hingston, who says:—

Trees and shrubs.

"For the botanical names I have followed Brandis. But as synonymous, both botanical and vernacular, are numerous, I give the references opposite each tree to the places where full information will be found. B. refers to Brandis' *Forest Flora*, & to Stenzl's *Punjab Plants*, and PP. to Baden-Powell's *Punjab Products*. I men-

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tion below the principal ones to which the villages of the tract put such trees; but many other trees are mentioned by the authorities I quote. I omit official names, which are simply innumerable."

Trees and shrubs

No.	Vernacular name	Botanical names	References
1	Ak	<i>Celtis acuminata</i>	B 111 S 134
2	Amb	<i>Muntingia calabura</i>	B 125 P P 906, 1127, 1969 S. 16.
3	Arpi	<i>Clerodendron phlomidis</i>	B 138
4	Bekain	<i>Ulmus procera</i>	B 125 P P 1160, 1970 S. 23.
5	Dar	<i>Ficus benghalensis</i>	B 412 P P 1160, 1920 S. 212.
6	Dhak	<i>Butea frondosa</i>	B 111 P P 1006, 1109, 1207, 1674, 1762, 1770 S. 69.
7	Farsah	<i>Trametes Articulata</i>	B 22 P P 1125, 2001, S. 22.
8	Guler	<i>Ficus glomerata</i>	B 125 P P 1407, 1810 S. 212.
9	Hinga	<i>Balanites roxburghii</i>	B 20 P P 1810 S. 14.
10	Hina	<i>Capparis spinosa</i>	B 15 S. 16.
11	Jal	<i>Salvadora persica</i>	B 111 P P 2001 S. 175.
12	Jaman & Juman	<i>Eugenia operculata</i> and <i>Juglans</i>	B 125 P P 2002 S. 21.
13	Jank	<i>Ficus spicigera</i>	B 111 P P 2021, 1248, 1580, 1720, 2010 S. 24.
14	Jawas-	<i>Alnus nepalensis</i>	B 147 P P 1206 S. 23.
15	Jhar	<i>Terminalia oblonga</i>	B 21 P P 1126, 1127, 2001 S. 91.
16	Jhar	<i>Ziziphus jumulaaria</i>	B 94 P P 1178, 2163, S. 43.
17	Kaloda	<i>Dipterocarpus caudifer</i>	B 250 R 127.
18	Kair	<i>Capparis spinosa</i>	B 14 P P 2021, 1170, 1802, S. 18.
19	Kandar (Chopat),	<i>Syzygium cumini</i>	P P 1573 S. 181.
20	Kandoi (Jhatri)	<i>Argemone mexicana</i>	P P 1790 S. 29.
21	Khajur	<i>Phoenix sylvestris</i>	B 125 P P 970, 1194, 1797, 1901, S. 213 R.
22	Kikar	<i>Acacia kirkii</i>	B 111 P P 1211, 1327, 1717, 1911 S. 60.
23	Kaphan	<i>Opuntia difesa</i>	B 815 P P 191, S. 101.
24	Nim	<i>Melia Indica</i>	B 67 P P 1438, 1600 S. 22.
25	Nimne	<i>Acacia leucophloea</i>	B 104 P P 1610, S. 63.
26	Pari	<i>Asplenium nidus</i>	B 281 P P 1760.
27	Pithan	<i>Ficus insipida</i>	B 111 A 21.
28	Pitai	<i>Ficus colomica</i>	B 112 P P 1483 S. 212.
29	Ras	<i>Helicia</i> (?)	
30	Ramayal		
31	Sonja	<i>Moringa pterygosperma</i>	B 129 P P 1171, 1544, 1823 S. 19.
32	Sukhain	<i>Dalbergia sissoo</i>	B 149 P P 1010, 1950 S. 16.
33	Sindhoor	<i>Vitis rotundifolia</i>	B 307 P P 1077, 2005 S. 166.
34	Thosar	<i>Lippia ligustrina</i> and <i>verbenina</i>	B 196 L P P 1473, 1537, 1929 S. 1917.
35	Tot	<i>Morus alba</i>	B 107 P P 972, 1484 S. 217.

The dhol.

27. The dhol is the commonest and one of the most generally useful trees in the tract. It grows gregariously in all low-lying stiff soil and drainage lines, and is found in great belts of them over all over the Nardak high-lands. The soft tough wood stands water well, and is used for well curbs and the leather-

wheels of Persian wheels, and also for bullock yokes. The scoop for lifting water is made of thin slices of it woven together with leather, and similar slices are used for the loops of sieves and the like. Fire used at religious ceremonies is always made of this wood. The leaves are used as plates and drinking cups at big dinners; small parcels from the shop are wrapped up in them, and boiled or eat them. The flowers boiled in water yield an inferior dye for clothes, and when dried and powdered form the *kast* or red powder used at the Holi festival. Cattle also eat them, and they improve the milk. The roots are sometimes dug up, beaten, soaked in water, beaten again, split up, heated a third time, washed, and the resulting fibre used for the rope of a Persian wheel and other purposes. But the rope so obtained is very inferior. The fibre is used to bind the rope in a *sharab* well. The resin which exudes from the bark is called *king* (even, lans). It is collected by a caste called *Heri* who come from the east; and a man following this occupation is called *dant-purha*. They pay a small sum for liberty to collect the gum and resin (*Qurban*) the trees in rows at distances of a span. Next day the resin which has exuded is scraped off into a small vessel. When dry it is beaten with sticks into small pieces, and winnowed to separate it from the bark and resin. Its properties are elaborately described by Mr. Baden-Powell. Here it is used chiefly to clear indigo and *neem* tonic, and never for tanning. The gum is collected from the tree when the thickness of a man's thigh, or about four to five years old, and a good tree will yield two acres, and give a smaller quantity six or seven years later; but the yield varies greatly. A rainy season favours its production, and the best time of year is the cold weather.

28. The *koker* is the next most useful tree. It grows profusely all over the tract, save in the lighter soils. It is said to flourish in soil impregnated with sulphur; but plantations of it were tried on the sand in such soil and failed entirely. It grows chiefly in khair lands, whether khair of a hill stream or of the daman. The hard, strong, close wood is used largely for agricultural implements and especially for all hedges, rollers, linings of presses, ploughshares, and the like, which undergo much wear and tear. It makes very bad charcoal. The bark is used largely for tanning, and the seed pods are greatly eaten by cattle and goats.

The *khajur*, or the wild date-palm, is abundant all over the Khair. Its soft stems are hollowed out for water channels. The leaves are used for hand fans (*shirmi*) and mats. They are also stripped off their stems, split up into strips, and beaten with sticks till the fibre is well when ropes are made of it, chiefly for the Persian wheel. The process, however, is very laborious, and the rope exceedingly inferior. The fruit which is poor is eaten by the villagers. No pistil was distilled from it since the arrangement was moved from Karnal.

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The *shah*.

Other trees.

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The *sarsch* is found throughout the district chiefly in the Khadur. Its wood is used for building purposes, and when young, for charcoal. The galls (*omph*) are used for dyeing.

The *pipal*, *pilkhan*, *gular*, and *laur* are solitary figs, chiefly valued for their splendid shade. One or other is often to be found outside the gate of the village. The *gular* wood stands away especially well, and is used for well curts, as in, though less frequently, that of the *pipal*. The *pipal* leaves, too, are very fine foliage; but are only used in frames, as the tree is sacred. The *pipal* and *laur* are very common in the valley of the Sutlej.

The *shikham*, *tat*, and *sin* are not very common except where sown. The first gives the best wood grown in these parts for all purposes which require strength and toughness. The fruit of the *tat*, or wild mulberry, is eaten by the children, and the twigs are used as mallets for basket-work of all sorts, and for the lining of embanked wells.

The *amb* or mango is the favorite tree for groves, and most villages in Panjab and in all parts of the Kurnool tahsil except the Narlikot have several. The fruit is exceedingly poor, and not sold as a rule. The leaves are used for charans, the wood for bowls for kneading dough, and for any purpose in which durability or strength is not required.

The *jambon* is always used for the outer rows of groves, growing straight and tall and close together, and shading the trees inside. It must be distinguished from the *jambon* or Eugenia jambosa. The wood is used for building purposes and for bedsteads; and the flesh, which is inferior, is eaten by the villagers.

The *bainsa* is common except in the Khadur. The wood is very tough and hard, and is used for prongs and tooth of agricultural implements. It is a small tree, but a favorite with the people because its close foliage furnishes excellent shade.

The "mango" or horn-mulberry tree yields long green buds which form a favorite pickle, and the tree is always ruthlessly lopped, as only the young shoots bear fruit.

The *babai* or Persimmon tree, with its delicious fruit, is often found by the well. Its wood is used for ox-yokes.

At Kuroni itself there are, probably, the finest fruits gardens in Northern India, dating back from the times of the old custom-house, the managers of the canal and other guardians surpass even those of Sialkotnagar. The old court, too, has a very fine selection of trees, many of them rare, on its banks.

23. The *jati* and *bairi* grow gregariously all over the higher and poorer parts of the tract, except in very light soils. The fruit of the former is called *pilm*. The buds of the latter are called *tat*, and are eaten boiled; the ripe fruit is known as *pajni*. Both fruits ripen in Jethi, and form a real resource for the poorer classes in famine years. The *bairi* is especially valuable in droughts as it fruits a second time in autumn in dry seasons. The wood of the *bairi* is greasy, and the charn-staff is therefore always made of it.

The *shau* grows in the low sandy flats all along the river edge. The *sundanu* is common in all the lighter soils of the tract. Both are used for basket-work, and for lining unbriked walls.

The *jant* makes good charcoal, and the unripe pods are called *sangar*, and often boiled or fried. The tree is often sacred to the inferior deities. In the Nardak it is partly replaced by the *mishir*. Wherever the *jant* is abundant in the Nardak one may be sure that the soil is good.

The *jhar* flourishes everywhere except in the Khadir. The ripe fruit is eaten in Jethi. The bushes are cut in Katik and Jethi and piled in a heap (*bind*) to dry. They are then beaten with sticks, and the broken leaves form *pali*, a very valuable milk preservative fodder. The leafless thorny bushes (*tar* or *chay*) are used for hedges.

The *kino* and the *hingo* are common; especially the former. It is a noticeable feature of the Ghagar Jangala. The cut bushes make splendid hedges, the thorns of the *kino* being especially formidable. The *hingo* makes good fuel.

The *trei* and *entrel* are chiefly remarkable for the delicious and powerful perfume of their flowers, which scents the air for many yards round. The former is used for charcoal, and pipe stems are made of the branches.

The *thohir* or euphorbia, and the *cappina* or prickly pear, are used for live hedges in the Khadir, where thorny bushes are scarce.

The *uk* grows everywhere, and is used in cutting tobacco. Its root is medicinal.

Among herbs the *pinti* is chiefly remarkable as the mark of bad sandy soil. It grows in cultivation only, chiefly in the Khadir. The *lauvra*, *ras*, and the two *landui* grow among the crops in the light blessed soil along the river edge, and do them an infinity of harm. Their presence is a proof that the soil was too wet at sowing for the yield to be good. Traces of *lauvra* or the *ras* plant are to be found in the Kalthal (ash).

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30. The principal jungle grasses of the tract are given below omitting the many species that grow on fallow only.—

Uruses.	No.	Vernacular name.	Botanical name.	Reference.
	1	Anjan	Austropogon intermedius	P. P. 521, p. 266, 1221.
	2	Barn	Eragrostis hololeuca	P. P. 520, 5 202.
	3	Dab	Festuca cynosuroides	P. P. 1540, 1542, 5 224, N. W. M. 4, 273.
	4	Tilla	Cyperus diffusus	P. P. 520, 5 221.
	5	Dulki or Dules	Cyperus distichophyllum	P. P. 521, 1540, 5 222, N. W. M. 4, 283.
	6	Ganjali	Austropogon sp.?	P. P. 527.
	7	Hatki		
	8	Kuri	Eragrostis sp.?	S 225.
	9	Lamp.		
	10	Mas	Stachys myrsinifolia	P. P. 1579, 1592, 5 261.
	11	Mathpura		
	12	Palwa	Austropogon nemoralis	P. P. 522, 5 248.
	13	Panni	Austropogon muricatus	P. P. 1531, 1593, 5 218, N. W. M. 4, 204.
	14	Ras		
	15	Sankat	Pennisetum glaucum	P. P. 526, 527, 5 238.
	16	Sard	Stellaria coronaria	S 235.
	17	Sarkara	Stellaria sparsiflora	P. P. 520, 5 231.

The *dab* is the kusa or sacred grass of the Hindus. It is a coarse grass generally found in company with the *tilla*, and is chiefly used for ropes. It is cut in Kanki, dried, beaten, soaked in water for a few days in the hot, or a month in the cold, weather, and the fiber washed and dried. The process requires little labour, and the ropes never rot. They are not strong, however. They are used for the ropes of the Pindas wheel, where they will last three months or more, for stringing bastards, and for general purposes. Buffaloes eat the young grass, and the old grass is sometimes used for thatching.

Panni is a tall coarse grass growing in low-lying moist places and in flooded land. It is very abundant, and is the principal thatching grass of the country. Its roots form the sweet smelling thus used for *tilla*. The culm or woody stem is called *barn* or *sik*, and is used for making brushes, and for religious purposes. Buffaloes eat the young grass.

The *sarkara* or *markundi* (tiger grass) is found on the canal bank in the Khadir. The thick strong culms are called collectively *bind*, and are used for making chairs, boxes, and screens, and the leaves for thatching. Mr. Baden-Powell would seem to have confused this grass with the one next following.

Masj is very like *sarkara* in general habit and appearance, but is much thinner in the stem, and is found only in the Khadir. The top of the culm is called *tilla*, the sheathing petiole *masi*, and the two together *masji*. *Masj* is used for making string and rope, and is stronger than *dab*. It is also used for matting. The *tilla*, which is peculiarly fine, elastic and polished, is used

for making winnowing fans (*takha*), coverings to protect road ridges, carts, &c., from the rain (*nirka*), clothes boxes, and the like. This grass must be distinguished from the hill grass of the Punjab, which is *Aadropogon lavalatum*, and is here called *bhabar*.

The following are the best fodder grasses in order of merit:—*Anjan*, *ubb*, *pusan*, *carota*, and *gathil*. All these are cut and stacked as hay. *Sawak*, when young, is useful; but falls off as it gets older. The seeds of *sawak* and the roots of the *dito* or *sejga* are eaten on fast days.

CHAPTER II.

HISTORY.

SECTION A.—PHYSICAL.

Chapter II, A.

Physical History.

Changes in the course of the Jumna.

31. The question whether the Jumna ever, as thought by some geologists as well as archaeologists, formed a part of the western water system, is too large to touch upon; but if the Jumna ever did run into the Indian Ocean, the two large and very remarkable blights in the Bangar on which the cities of Karnal and Panipat stand, and which cut right through and extend to the west of the water-shed, almost certainly mark two intermediate steps in its change to its present course; and the old course must have run along the foot of the Nardak step, where the old main canal ran. But changes in this stream have been, during historical time, confined within the limits of its present Khadir. That it did once flow below the towns of Karnal and Panipat, in the bed immediately under the Khadir bank now occupied by the Burhi Nadi, is beyond a doubt. And it is also certain that it did not at any wholly abandon that bed; but that a branch of some importance continued to flow in the old channel till comparatively recent times. In 1295 A.D., Timur encamped on the banks of the river of Panipat on his way from Panipat to the Jumna; and the *Ain Akbari*, written about 1590 A.D., states that "the stream of Sanjauli (village in the Khadir) runs under the town of Karnal." There is a universal tradition that the Burhi Nadi used to flow regularly in flood times within a comparatively recent period; and within the memory of man the floods have passed from the river above Dholavali and run down the old bed as far as Delhi, the last occasion being in 1854 A.D. But the strongest evidence is afforded by the map, which clearly shows that in some parts of its course the river or its branch suddenly changed its course, while in others it gradually retreated. On this part of the Jumna, the villages on the river edge divide alluvium thrown up in front of them by straight lines drawn from the end of their old boundaries to meet the main stream. The result is that, as the general tendency of the stream is to shift eastwards, the boundaries of villages which have had a gradually receding river frontage for any considerable period, run out to the east in long parallel lines. This formation is well marked on the present river frontage; and it is impossible to look at a map showing the village boundaries of the Karnal, Panipat, Sonepat, and Delhi Khadirs, without being convinced that exactly the same process has taken place in some places and not in others along the course of the Burhi Nadi or Ganda Nala, the dry channel of which still runs under the Khadir bank. There

are three well-defined blocks of land which are clearly marked off from the rest of the Khadir by the superior richness of their soil, and by their sharply-defined river bank. These are : (a) the block including Baumpur, (b) that including Aja, Dabri, Lukashra and Gunaur, and (c) that including Basat, Pundri, Bahil, and Karur. Now, these blocks consist of villages with more or less circular boundaries, while the villages to the west of them show marks of alluvial accretion; and there is little doubt that these former villages were at a very distant period on the east bank of the Jumna. This conclusion is borne out by local tradition, which tells us that Gunaur and Basat, with all the villages about them, formerly lay to the east of the river. Mr. Huber writes as follows :—

" My personal knowledge of the soil of every village in the Khadir, and of the innumerable old channels still to be traced, has convinced me that these two areas (b and c) have wholly escaped the river action which in comparatively recent times has gone on throughout the remainder of the Khadir, and that here, and here alone, the main river has changed its course suddenly and not gradually. It follows, of course, that the change in that course may have taken place after, and not before, the date of origin of these villages."

As regards the date of the change, almost the only data we have are the number of generations for which the various Khadir villages are said to have been inhabited. The Panipat tradition is that the river left the city walls in the time of Buni Kalander, or about 1200 A.D. The villages over which the river appears to have passed comparatively recently show from 10 to 15 generations in their genealogical trees; those which the river appears to have gone round, from 20 to 30. Of course, even supposing the genealogical trees to be absolutely correct, it by no means follows that all the generations have followed since the foundation of the village, for the community tends back its descent to its common ancestor; and it is always possible, and, in villages settled as offshoots from a neighbouring parent-village, almost certain, that the family or it took no more steps of its descent from him, and not the ancestor alone, emigrated to the new village. Much information on the riverine changes of the Panjab is to be extracted from the first few pages of Mr. Methone's sketch of Panjab Geology, published in the Provincial column of this Gazetteer.

32. The existence of numberless abandoned wells throughout the Narduk junga is also a certain proof that the tract was once far less arid than it is now; for extensive irrigation with water at 70 to 100 feet from the surface is impossible, at any rate to Rajputs. The whole country-side says that the Chauray was dug out and straightened by some former Emperor, and used in old days to flow continuously as a canal, and that when the stream became intermittent, the water-level sank and the walls were abandoned. The names of the builders of many of the wells are known; and it would appear that the change dates

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Physical History.

Changes in the course of the Jumna.

The Chauray and
Nar Hudi.

Chapter II. A.

Physical History.The Chambal and
Sat-Sab.

Famines.

from not so very many years back.* It is noticeable that Nadir Shah, in January 1739, crossed "a large river" at Tiratori on the Nai Nali; and the people say that one of the old Emperors built a dam and turned part of the Chambal water into the Nai. The whole matter is intimately connected with the interesting question of where Firoz Shah's canal really did run.

33. This will be the most convenient place to give such information as is available with regard to the earlier famines in these parts. In 1783 A.D., or 1300 S., there was a terrible famine known as the cholias in which grain rose to 4 seers the rupee, and the horrors of which have been handed down by tradition to the present generation. No efforts were made to relieve the distress, and even rich men died in numbers. In 1803 A.D., or 1860 S., there was a total failure of crops, and great distress, but little mortality. In 1812 A.D., or 1869 S., grain rose to 10 seers per rupee; but great efforts were made to encourage private enterprise and transport, and the mortality was not great. In 1824-25 A.D., or 1851 S., there was a terrible famine. In the former year the crops withered up; in the latter none were sown. No grass sprang up, the cattle died, agricultural operations were suspended, the people fled, and not one-fifth of the revenue was collected, and in many villages none was even demanded. The export of grain to the south, where the distress was even more severe than in the tract itself, helped to raise prices. But there would not appear to have been any very great mortality.

In 1833 A.D., or 1870 S., the whole country was overwhelmed by the most terrible famine which village tradition can recall, forming the epoch from which old men fix the dates of events. In many villages no land was even ploughed up for the autumn crop; in but few was any seed sown; in none was a crop reaped. What little grass sprang up was eaten by locusts. The cattle died,† grain rose to 8 seers per rupee, and the people followed their cattle; while crowds of emigrants from the high-lands to the west poured into the districts to help the residents to starve. The spring rains were abundant, and where cultivation was possible, an ample yield combined with famine prices more than covered the misery loss of the preceding season; but man and cattle alike were wanting to take full advantage of the opportunity. And when the rains of 1833 again failed, the district simply broke down. Large remissions and suspensions of demand were made, large balances accrued on the remainder, the jails were once more filled with defaulters, and villages were again deserted in every direction. On this occasion it was pro-

* See also page 12.

† Mr. John Lawrence says:—"As early as the end of April there was not a blade of grass to be seen in the valley, and the surrounding plains were covered with the carcasses of the cattle which had died from starvation. On the small islands crops were set down and sold as fodder to those who could afford to pay for them."

posed to prohibit the export of grain to the west; but Government sternly refused to allow of "any tampering with the grain market as highly objectionable in principle, and likely to lead to disastrous results."

In 1837 A.D., or 1894 S., the failure of the rains again caused the greatest distress. In the District itself there was nothing more than a severe drought, in itself a sufficiently depressing circumstance; but further south the calamity assumed the proportions of a great famine, so that in some places the people were "driven to move bodily to find food elsewhere;" and the demand for grain thus created drove up prices in Panipat to famine rates. Wheat was again at 8 to 10 seers per rupee. In 1841 A.D., a terrible epidemic of fever ravaged the whole of the Delhi territory, the mortality being so great that "in many places the crops died for want of persons to look after them," while the Government revenue showed a deficit of Rs. 2,87,000; and in 1843 another of a similar character, but even more terrible, devastated the country. In 1842 the rains failed, but the calamity assumed the proportions of a drought rather than of a famine. In 1851 a drought began, which continued to 1852, almost causing a famine; and the effects upon the crops were "infinitely disastrous." In 1853 A.D., or 1917 S., the rain-fall was scanty; in 1859 it consisted of "only three or four heavy showers;" in 1860 it was less than 6 inches at Karnal. Within two months the price of wheat rose from 23 to 9 seers per rupee, the large export of grain across the Jumna greatly enhancing the demand. Relief works were set on foot, and from January to September 1861, the weak and sickly were fed at an expense to which the famine fund alone contributed Rs. 41,500. In August of the same year, 22,237 units received relief in this manner. Cholera broke out in the camps, and the mortality was considerable among both men and cattle. In the Nardak two-thirds of the collections were suspended; and between 1860 and 1863 balances of Rs. 43,000 accrued, of which more than Rs. 27,000 had eventually to be remitted.

In 1867 A.D. or 1925 S., a famine again occurred, which was not so general, nor in the lower parts of the district so severe as that of 1860. But in the Nardak and the Raithal Taluk the failure of crops was more complete, and the distress greater; and the terrible mortality among the cattle left far more lasting effects upon the prosperity of the people. In 1868 both crops entirely failed, and in 1869 no rain fell till August, and the autumn harvest was accordingly scanty, while the spring harvest again entirely failed. Relief works of a very extensive nature were again opened, and alms distributed as before. From first to last Rs. 1,71,648 were spent, and 19,90,700 seers fed, the daily average of helpless persons receiving gratuitous relief in April 1869 being Rs. 12,120, in addition to Rs. 1,814 on relief-wares. owing to the number of 65,000 died, and

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* i.e. adding up the daily totals of persons relieved.

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Famines

" saved the *Gharsas* and *Chakras* from starvation." Of the Nardak in particular, the Deputy Commissioner wrote :—

" Hundreds of people are in a state of semi-starvation, never eating enough to eat from one day to another. Not a field is to be seen on the roads that have while they last, made a wretched substitute for fodder for the cattle. Skinning of cattle in all directions, empty bags, and lean countenances of the people remaining in villages, indicate a state of poverty fully justifying the relief proposed."

The Government, in its review of the famine, stated that it was more severe in Kurnial than in any other district of the Punjab. The impositions for the district, including the high tract of Kaithal, were Rs. 46,647, Rs. 10,300 out of a demand of Rs. 24,000 being suspended in the Nardak of the Kurnial taluk alone in 1879. Nearly 20,000 cattle died in the Nardak alone, and the people have never recovered from the effect of this terrible blow, directed as it was at their most certain sources of sustenance.

During the progress of Mr. Ibbotson's Settlement operations a drought, in some respects more destructive, because more prolonged than any of its predecessors, afflicted the Nardak. From 1875 to 1877 the people had not a single good crop. Porelliaries were opened, and relief works set on foot; but mortality was small, and in fact famine pitch was hardly reached. But the grass famine was terribly complete; and the cattle again suffered fearfully. Large remissions and suspensions were again sanctioned, but the strain on the resources of the people was very severe.

The spring harvest of 1880 was a very poor one. The summer and winter rains of 1880-81 were failed, and in the drier tracts there were no crops. The grass famine was intense, and the cattle had to be driven off to the hills, whence many never returned. The loss of plough-hullocks was very large. The policy of giving large suspensions was adopted and has been continued ever since in the drier tracts and the upland insecure country, whose crops depend on the floods of the Sutlej and Ghaggar, whenever the area may thus arise. It must be remembered that when the highlands are enjoying a bumper harvest, the Naini is very likely to be drowned. In the Kaithal taluk alone, excluding Pohora, Rs. 38,774 were suspended in 1881-82, Rs. 12,452 in 1884-5, Rs. 40,812 in 1885-86, and Rs. 15,473 in 1887-88. Advantage has been taken of every good season to reduce the balances, and in the autumn of 1888 only about Rs. 3,000 remained uncollected. It is not too much to say that the success or failure of the new settlement depends on the continuance of this policy in all tracts outside the influence of the river and the canal.

It is curious to note the regularity with which drought or famine years occur, as shown in the following series of years :—
1783, 1793, 1812, 1821, 1830, 1842, 1851, 1859, 1869, 1877, 1886.

SECTION B.—POLITICAL.

34. The great plain of which the district forms a part, lying, as it does, at the very door of Hindustan, has from the time of the Mahabharata to the establishment of English rule been the battle-field of India. But Karnal is no nearer to the capital of Delhi, than whenever and for so long as the empire which centred in that city existed as more than a name, its political fortunes were practically identical with those of Delhi itself. Thus all that will be attempted here is to relate as much of its political history as is distinct from that of the Imperial city, and to notice briefly the historical events which took place within the tract itself. The tribal history of the tract is given in Chapter III.

35. Considering the close connection of the tract with the legendary history of India, the objects of antiquarian interest existing in it are few in number. Among the most curious of them is the old shrine of Sita Mai, at the village of that name in the Narluk. It is built in the ordinary form of a Hindu temple, of which Mr. Ferguson gives many examples in his hand-book of Indian Architecture. It is of brick; but the curious feature is the elaborate ornamentation which covers the whole shrine, the pattern of which is formed by deep lines in the individual bricks which seem to have been made before the bricks were burnt, so that the forms they were to take must have been separately fixed for each brick. A large part of the shrine was pulled down and thrown into the tank by some iconoclast Emperor; and though the bricks have been got out and the shrine rebuilt with them yet they have been put together without any regard to the original pattern. The broken Baul, part of which has been recovered, is of a curious shape if it was originally made for a Hindu temple, as it is more suggestive of Buddhist symbolism. The shrine is said to mark the spot where the earth swallowed up Sita in answer to her appeal for a proof of her purity. The shrine of Kalandar Sahib at Panipat possesses two slabs of touchstone of very unusual size. It was built by Khizi Khan and Shadi Khan, sons of the Emperor Al-ud-din Giori. Panipat possesses several buildings dating from early Afghan times; and the Kabir Bagh mosque built by Babar will be mentioned below.

Misors which mark the course of the old Trunk Road are still standing at intervals of about two miles. And the remains of the hosteries (caravans) at Tisori, Shacnuda, and Shurkhalka are still in existence, that at Ahramunda being a very fine and striking specimen of early Mughal architecture. It was built by Khan Firoz in the reign of Shah Jahan about 1632 A.D. The contrast between the huge brick gates which were then necessary for the protection of travellers, and the slight structures which now suffice for the same purpose, speaks volumes as to the state of the country at the respective periods.

Chapter II. B.

**Political,
History,
Antiquities.**

**Early Hindu
history.**

The old bridge at Gola has already been referred to. It is of stone, apparently the spoils of some Hindu temple. An elaborately carved slab found in the bed of the Buran is immediately below the bridge is now in the Lahore Museum. There is another ancient bridge across the Sarnoti at Palarimara near Sialkot, but only ruins of the piers remain.

39. Kurrial is included in the *Brahmarashidem*, or land of divine sages, the sacred river Sarnoti being at Thamir, only 2½ miles north of Kurrial, and the Drishadvati, if that is the Chautang, cutting the district excluding the Kathial taluk into two nearly equal parts. All the north-western portion, comprising most of what is called the Nardak, is included in the Kurukshetra or field of the great battle described in the Mahabharata and caused by the refusal of the Kauravas to give up the five pats, of which Panipat was one. In fact Nardak is properly but another name for the Kurukshetra, though it is wrongfully but conveniently extended, by local custom, to a certain conterminous area to which it does not properly apply. The world is said to mean ruthless (Sanskrit *Nirayaka* merciless); and the story goes that the Kauravas and Pandavas, being relatives, sought for a place to fight where the combatants should be specially hard-hearted, and chose this spot because there they found a man cutting off his son's head with which to dam his water-course. A tank in Hatali in the S. of Kathial is pointed out as the place where this incident occurred. But Huen Tsang says that the Nardak was known as the Happy Land when he visited it, and this would seem to point to dulk or gain, as the second factor in the world. The limits of the Nardak and the antiquities of the tract are elaborately discussed by General Cunningham in his *Archaeological Survey Report*, II, 212 to 220, and XIV, 86 to 108, and *Ancient Geography*, 329 to 330.*

The southern boundary of the Kurukshetra is the Sali Nudi, which cuts off the western corner of the Karnal pargana, and reappears in the south-west corner, where, at the village of Sink, or south-west corner of the Kurukshetra, Parka Jakhah is said to be situated; and all that lies beyond this line is included under the general term *urb* or non-Nardak, or is called *dher*, meaning vast. The Nardak itself is also called *rak* or battlefield, and the term *rak kilar* is locally applied to any barren soil, as they say that such soil marks the spots where the sparks from the weapons of the combatants fell. The scenes of many of the incidents narrated in the Mahabharata are still pointed out by the people, and the whole area is full of *tirtha* or holy tanks. It was at the village of Bassali (*Vira dhati*) that the

* On this subject Mr. Bhooton, remarks—"With all due deference to an distinguished authority, I cannot help thinking that General Cunningham raises unnecessary difficulties. Huen Tsang's words may easily be taken to mean that the radius, and not the circumference, of the Happy Land was 300 li. And Massen surely states that the Kurukshetra is not included in the Brahmarashidem. I think General Cunningham's reading of the text would exclude some of the hilly places which he himself includes in the Nardak."

sage Vasishta who wrote the *Mahabharata*; and there that the Ganges flowed underground into his well to save him the trouble of going to the river to bathe, bringing with it his loa and loin cloth, which he had left in the river, to convince him that the water was really Ganga-water. The well is still there to shame the sceptic. It was at Goudar that Goutama Rishik caused the spots in the moon, and gave Indra his 1,000 eyes. It was in the Panch tank at Balolpur that the warrior Duryodhana hid; till Krishna's jocks brought him unwillingly out to fight, and at the Phalgu took in Pharsal that the Kauravas and Pandavas celebrated the funeral ceremonies (*sraaddha*) of the warriors who had fallen in the war. The local legends are far too numerous and lengthy to give here; they have been collected into a little book called *Kurukshetra Darpan*, compiled in 1853 by Maanji Kala Bai, Extra Assistant Settlement Officer of Thanesar, and printed at the Koh-i-nur Press, Lahore.

37. Some account must, however, be given of two famous villages, Amrit and Pohowa. The former is a large village in the north of the Jind pargana. The following notice of it is extracted from Cunningham's *Ancient Geography of India*, p. 337:—

"Five miles to the S. S.-E. of Thanesar there is a large and lofty mound called "Amrit," which is said by the Brahmans to be a concretion of "Abhimanyu's blood," or the mound of Abhimanyu, the son of Arjun. The place is also named "Chakrabhara," or the "Army of the Aswamedh Army," because the Pandavas here assembled their troops before their last battle with the Kauravas. Here Abhimanyu was killed by Yudhishthira, who was himself killed the next day by Arjun. Here Aditi is said to have sealed herself in ascetic abstraction to obtain a son, and here accordingly she gave birth to Surya, or the Sun. The mound is about 2,000 feet in length from north to south, and 500 feet in breadth, with a height of from 25 to 30 feet. On the top there is a small village called Amrit, inhabited by poor Brahmans, with a temple to Aditi and a "Surya Kund" on the east, and a temple to the Surya on the west. The "Surya Kund" is said to represent the spot where the Sun was born and accordingly all women who wish for male children pay their devotions at the temple of Aditi on Sunday, and afterwards bathe in the "Surya Kund."

Pohowa or Pohown is thus described in the *Ancient Geography of India* (p. 339):—

"The old town of Pohowa is situated on the south bank of the Sarayu, 14 miles to the west of Thanesar. The place derives its name from the famous Prithvi Chakravarthi. The story of the cure of Raja Yudha's leprosy by bathing in the Sarayu is told in the Vishnu Purana. On his death his son Prithvi performed the usual *sraaddha* or funeral ceremonies, and for 12 days after the interment he sat on the banks of the Sarayu offering water to all creatures. The place was, therefore, named Prithvadeva or Prithvi's pool, from Sanskrit *adeva* water; and the city which he afterwards built on the spot was called by the same name."

In Vol. XIV of the *Archaeological Survey Reports* a full account is given of the numerous holy places at Pohowa. The inscrip-

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Political History.

Early and Palwanas.

tion described in the same volume is now in the Lahore Museum. There is no doubt Pohowā is a place of great antiquity. In modern times the last Sikh ruler of Kaithal, who built a beautiful bazaar for himself near the town, did his best to increase its religious importance. The story of Raja Prithu's connection with Pohowā is no doubt a somewhat late Brahmanic legend. Any one who visits the place in the rains, when the Sarsuti is in flood, will understand why it was called Prithudaka (S. prithu, wife, and daka, water).

Buddhist period.

38. The number of Indo-Scythian coins which are found at Pohar on the Sarsuti, 10 miles north of Kaithal, would seem to show that these parts were, about the Christian Era, included in the Indo-Scythian Empire; and Salsidur, on the border of the district, is still pointed out as the site of the great slaughter of snakes (or Scythians with a snake emblem) mentioned in the Mahabharata. About 400 A.D. the Chinese pilgrim Fa Hina, and again in 635, his successor Huen Tsang, traversed the district. At the time of the latter's visit it was included in the Kingdom of Thauror. The curious form in which the legend of the Mahabharata is given by the traveller is most interesting. It is not improbable that the Gominda monasteries described by him, and identified by General Cunningham with the village of Guiana, is now represented by the monastery of Sita Mai, which is only four miles from Guiana.

Early Muhammadan invasions.

39. In 1011 A.D. Mahmud Ghaznavi sacked Thauror, only 20 miles from Karnal, but made peace with the Delhi Rajah and returned without moving further south. In 1017 A.D. he plundered Matlora. In 1039 A.D. his son, Sultan Muhammad, entered this part of the country, leaving a governor at Sarsuti to administer it in his name; but it was re-conquered by the Hindus four years later. In 1191 A.D. Muhammad the Saracen Ghori was wounded and his army nearly routed by Rai Pithora at Narana, seven miles from Karnal and three from Tiraori. This village is situated in the Nardak, on the Nai Nari. Next year the Sultan returned, found Rai Pithora encamped on the same spot, defeated and killed him in the battle which ensued, and conquered Delhi. This battle finally substituted Muhammadan for Hindu rule throughout the Delhi territory, Kutubdin Alibek being left at Delhi as the representative of the Ghori monarch, and being made independent by Ghiasuddin Ghori in 1205 A.D. under the title of Sultan.

History under the Palwan dynasty.

40. On the death of Kutubdin in 1210 A.D. his Indian possessions were divided into four provinces, Delhi and its environs falling to the share of Sultan Shamshuddin Altamash. The province of Balcoo was given to Tajuddin Yelkor; and in 1215 the two fell out about their common boundary, and in a battle, again fought at the same village of Narana, Tajuddin was killed. In 1290 A.D. Prince Hammayyan, afterwards Sultan Alauddin Sikandar Shah, who was in command of the army of

his father Sultan Nasiruddin Muhammad Bin Feroz, pitched his camp at Panipat and plundered the environs of Delhi, which was in the possession of the rebel Abu Bakr Tughlak. The latter marched out and defeated him at Panipat, a small Kharia village some seven miles south of Panipat, built on the deserted site of a very large village which is still said by the people to have been destroyed in a great battle. There were about twenty cavalry engaged on each side when in this occasion. In the early years of Mahmud Shah's reign (1391 to 1392) the pretender Nasiruddin Nasar Shah held the fort of Sarsaih, Panipat, Jhajjar, and Rohtak, the Emperor being almost confined to the capital. In 1397 Abu Bakr Khan, one of Mahmud's Generals, and Governor of the Port of Siri, dethroned Nasiruddin by treachery from his headquarters at Sarsaih, and the latter took refuge with Tariq Khan who had been Prime Minister to Ghiyasuddin Tughlak. H. Bakr Khan then seized upon Mahmud's person, and peacefully ruled in his name. Meanwhile Tariq Khan had encamped at Panipat, and Bakr Khan marched against him; he overthrew Tariq Khan leaving his baggage and materials of war at Panipat, reached Delhi by forced marches and laid siege to it. Bakr Khan then invested Panipat and took it in three days, upon a hearing which Tariq Khan raised the siege of Delhi and Roltto Ogra.

41. When Tamer Shah invaded India, he marched through the district on his way to Delhi. His route is very fully described in his annals—*shahnameh*, and also in the *Zafar Nameh*; and it is easy to trace it through Rohtak, across between Manak [Akalgath] and Amrit. It is also certain that he crossed the Sarsaih and Ghaggar by bridges at Pinday, Bhura and Gula.* From Kauthar he marched through Amrit to Tughlakpur, which was said to be inhabited by horse-chippers. The name Tughlakpur seems to be corrupted *Pinday* of which the place with Sardar Bap is also *Amrit* certainly Sardar, the words "the people of this place who also call it Sardar," being probably a misreading for "which is also called Sardar." From Sardar he marched, the front of his army extending for more than 20 miles, to Panipat, which he reached on 2nd December 1394 A.D. The people had deserted the town in obedience to orders from Delhi; but he found there 10,000 heavy mamsas, a pair to forty lighted mamsas, of which which he seized. Next day he marched six km. and encamped on the banks of "the river of Panipat, which was on the road." This can have been no other than a branch of the Jumna, then flowing under the town in the channel of the *Dauli Nali* or old stream. He then marched via Kunhi Sain to Palla on the Jumna in the Delhi taluk, while a detachment harried the country round and brought in supplies. Seven days later he

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Former History.

History before the
Tughlak dynasty.

Invasion of India.

works.

* The place at which the bridge on the Ghaggar was crossed is sometimes called Kunka and Kunka or Kunka but in *histories* for these are quite common names of the cities for this. 2.H.B.

Chapter II, B.

Political
History.

Anarchy previous
to the Moghal
dynasty.

First battle of
Panipat.

defeated Sultan Mahmud at Delhi. Ferishta says that Timur returned by Panipat; but this seems to be a mistake for Bagpat.

42. In the anarchy that followed the departure of the invader, and in the subsequent struggle between the Sayyids and the Lodis, Karnal was entirely separated from Delhi, and belonged, first to the ruler of Samana, and eventually to the Lodi rulers of the Panjab. During the reign of Babar Lodi, his son Prince Nizam Khan, afterwards Sikandar Lodi, seized Panipat and held it in fief without permission. He made it his head-quarters, and his forces there included 1,500 cavalry. Karnal and Panipat were on the high road from Sirhind and Firozpur to Delhi; and from the time of Timur to that of Akbar, or for 100 years, armies were constantly passing through the tract, and battles, more or less important, being fought in it.

43. In 1526 A.D. Alauddin Ali Khan was sent by Babar with a Moghal army against his nephew Sultan Ibrahim Lodi, and was joined at Indri by Mian Suliman, a Piranah of Panipat, with additional forces. Being defeated near Delhi, he retreated to Panipat, where he tricked his friend Suliman out of three or four lakhs and went on his way. He shortly afterwards rejoined Babar; and next year the Moghal army marched on Delhi. Leaving Ambala, Babar marched via Shahabad to the Jumna near Halabur in talukh Pipili, and thence followed the river bank to Kurzai. There he heard that Alauddin, whom he had sent on towards Delhi, had been defeated by Ibrahim, and that the latter had advanced to Gannur. Mounting his horse at Ghatauria mrai, Babar led his army to Panipat, which he selected for the battle-field, as the town would cover one of his flanks. He arrayed his army about two kis to the east of the city, and with his right flank resting on the walls. Ibrahim Lodi took up a position at the same distance to the south-west of the city, and for a week nothing more than skirmishes occurred. At length, on 21st April 1526 A.D., Ibrahim Lodi's forces advanced to the attack, were utterly routed, and were pursued by Babar's army to Delhi, while the conqueror remained encamped for a week to the west of Panipat. He considered the spot a fortunate one, treated the people well, and made Sultan Muhammad Anguli, who had assisted him with troops, Governor of Panipat.

In this battle Ibrahim Lodi was slain, and his tomb lies between the talukh and the city of Panipat. The District Committee about the year 1866 erected a tomb or plain platform over it, with a short Urdu inscription in order to rescue the site from oblivion, (see Chapter VI. S. v., Panipat). It was one of Sher Shah's dying regrets that he had never fulfilled his intention of erecting a tomb to the fallen monarch. In this battle, too, was killed, while fighting in Babar's army, Sanghar, the founder of the Phulkian family of Patiala, and Vikramaditya, the last of the Tomara dynasty of Gwalior. The battle is fully described by several authorities. Ferishta's descriptions differing materially from that of Babar himself. Also: the battle

Bahar built a garden with a mosque and tank on the spot; and some years later, when Humayun defeated Salau Shah some four miles north of Panipat he added a masonry platform and called it Chahibara Fattah Mubrik. These buildings and the garden still exist under the name of Kabel or Kabil Bagh.* The building bears an inscription containing the words "Bimal Rabi ul-Awwal 934 Hijr." In 1529 the Mandhar Rajputs of the Nardak rebelled under their chief Mohan, and defeated the royal troops. Bahar then burnt the rebel villages. Later on, during the struggle which led to the expulsion of Humayun, Fateh Khan Jat, Governor of the Panjab, rebelled and laid the country waste as far south as Panipat.

44. When Humayun died at Delhi, the young Akbar, who was then in the Panjab, marched at once under the guardianship of Bairam Shah to meet the Afghan army under the great Hindu General Hemu, who was advancing from Delhi. Passing through Thanesar, he arrayed his army 10 miles north of Karnal, and then marched to Panipat two kos to the west of which city Hemu was encamped. After a week's skirmishing, Akbar sent a detachment round the city to take Hemu in the rear, and advanced to the attack. The result was the death of Hemu and the total rout of the Afghans. Next day Akbar marched to Delhi, which he entered without opposition. The battle took place on 20th November 1555 (3rd November 1553?) and is fully described by the Emperor Jahangir and by Verishta.

45. During the early years of the Mughal dynasty† the empire was so firmly established at Delhi that the district can hardly be said to have possessed a separate history. In 1573 Ibrahim Husseu Mirza, Governor of Baroda, rebelled and plundered Panipat, Karnal, and the surrounding country. And again in 1606, Prince Khurro revolted and passed up this way from Delhi, plundering and pillaging as he went. When he reached Panipat he was joined by Abdur Rahim; and Dilawur Ali Khan, who was at Panipat with an imperial force retreated before them to Lahore. Jahangir himself shortly followed in pursuit, and mortised upon the success which Panipat had always brought to his family. He then ordered the Friday devotion to be always held in mosque of Kabil Bagh which Bahar had built; and this custom was continued till the Marathas occupied the mosque in the last battle of Panipat. For more than two centuries the country enjoyed

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First battle of
Panipat.

Second battle of
Panipat.

* Some say that Salau said the spot was "Kabul Bagh," so for a garden; others, that he planted the garden on the pattern customary in Kabul. Bahar had a wife called Kabuli Begum; and Mr. E. Colahmick says her name may possibly be derived from the name of a species of myrrhina (J.H.A.S. v. 11, p. 17).

† It is generally said that this dynasty, really Turko, were called Mughals, because in the Indian every foreigner was a Mughal, just as every Indian is still a Moor in the British empire. It is a curious fact that native officials are commonly called Turks by the villagers of those parts. If a master, perhaps all Hindus are in the village rest-house, one villager will tell another—"Turk has stopped here beside his horse,"—“There are Turks in the rest-house.”

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peace under the Mughals, the Western Jamuna Canal was constructed, the Delhi-Thanesar Road was put in repair, wells were erected at every stage, and a rest or well made at every kos for the use of travellers. The *mizars* (brick pillars 24 feet high) and wells still exist; but the *mizars* at Simbalukan, Gherwana, and Timbari are in ruins, while that of Karnal has disappeared.

Territorial divisions under the Mughals.

46. In the *Azam* Akbar we have the first record of the administrative divisions of the district. From very early times Panipat formed a separate unit of *nahiyah*, which probably included the Karnal pargana; and in fact Karnal is never mentioned in the early histories, and apparently was a place of little importance till towards the end of the Tughlaq dynasty. In Akbar's time the whole district was included in *Daulat Dehli*, and the greater part of it in *Sarkar Hidail*, of the seven *Dastur* (*districts*) of an *uliqat* *dabir*. Panipat was one, with 10 parganas, as follows:—Panipat, Karnal, Sakdon, Kuran, Chhajpura, Tando, Bhawan, Ganpur, Shimlaana, Kandia, and Dagle Khura. But the *Dastur* of Golam in *Sarkar Hidail* may have included, and *governed* Panipat in *Dastur Dehli*, just as Timuror in the *Dastur* of that name and in *Daulat Dehli*, and the *Dastur* of Indri in *Sarkar Sambhar*, almost certainly did include some part of the district. Pargana Hulari was also in *Sarkar Hidail*. A new pargana, Arimbad, containing 12 villages, taken from Indri, Karnal, and Tando, was subsequently formed with its head-quarters at Arimbad-Panipat. In the fourth year of Farrukhsir, that monarch is said to have separated the pargana about Simbalukan from Panipat as a royal domain for his own private expenses. It was not then known as Simbalukan; and when we took the country that name was only applied to a few villages held by a *yogi*-dar living at Simbalukan. But there was a larger pargana of Jauri, in which Simbalukan was included, and which was also the head-quarters of a *thappa*; and, as this Jauri is divided into several *khata* khata and Jauri khata and so the Panipat pargana is said to have consisted of 164 *thappa*, it is almost certain that what Farrukhsir did was to separate one *chowka* for his private expenses or *khata*. As a fact through this and many other similar groups of villages similarly assigned for specific purp. or more often called *pargana*, yet the old *Dehliyan*'s record of the part of the district settled by Mr. Hutton between 1750 and 1800 at any rate shows only the two original parganas of Karnal and Panipat.

Decay of Mughal dynasty.

47. Towards the end of the 17th century the Delhi Empire was fast falling to decay, and the Sikhs rising to power. In 1708 Banda Bahadur, son of the chosen disciple of Guru Govind, raised his standard in those parts, and, collecting an army of Sikhs, occupied the whole of the country west of the Jampa. He laid the whole neighbourhood in waste and especially the

neighbourhood of Karnal, where he killed the founder and massacred the inhabitants. He was defeated by Balchand Shah near Panipat in 1719, but escaped to found Gherialpore. In 1729 a charge on *pargana* Karnal of five lacs of daas was granted to Dilawar Ali Khan, Aurangzibull, whose ancestors had formerly held the *pargana* in *jagir*.

48. In 1738 Nadir Shah, enraged at not being received¹ by the Delhi court invaded India. On 8th January 1739 he reached Sirhind, where he learned that Muhammad Shah with an enormous army occupied a strongly fortified camp at Karnal. Nadir Shah marched on to Tissoor, on which, it being a fortified town, he had to turn his guns before it would open its gates to him. Here he learned from some prisoners he had made that the approach to Karnal from the direction of Tissoor was through dense jungle, and exceedingly difficult; and that Muhammad Shah had no room to move in, being encamped in a small plain which was barely sufficient for his camp, and surrounded on three sides by thick woods. He accordingly resolved to take the enemy in flank from the north-east. On the 10th January he left Tissoor, and marching round by the banks of the Jumna to the back of the city, advanced to a position close to the Delhi camp; mounted by next Prince Nasrullah Mirza with a considerable force to a spot on the canal and close to Karnal. All this time Muhammad Shah was not even aware that Nadir Shah was in the neighbourhood. Just at this time a detachment which had been sent to oppose Sanduk Khan, the Vicary of Qutub, who was marching from Panipat with reinforcements, and finding the enemy had followed him up to Karnal, came to close quarters with him. Nadir Shah and Prince Nasrullah at once marched to the support of this detachment, which was the first intimation the imperial army had of their presence. The engagement which followed was not decisive. But the army of Muhammad Shah, which had already been encamped for three months at Karnal and had suffered greatly from want of supplies, was now cut off from the open country in the rear and food became so scarce that a *kar* of flour could not be bought for four rupees. Thus Muhammad Shah was starved into submissiveness, and on the 13th February yielded to the invader who led him in his train to Delhi. The operations are very minutely described in the Nadir Name. Sir William Jones, in his French translation, speaks much of "Darijan Humin" close to Karnal, and between it and the Jumna. Mr. Robertson suggests that the words may be *darya Humin*, and refers to the canal, which had already been described as a large river. In 1748 Ahmad Shah was met at Panipat by the royal paraphrasha and the cows of the death of Muhammad Shah, and there and then formally assumed royal titles. In 1750 the Wazir Ghazi ud-din brought

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Descent of Mughal
dynasty.

Invasion of Nadir
Shah and Battle of
Karnal

¹ This probably "durbar Khana" is a body consisting of a "darbar" & a "zimma" & being fully confirmed. —J.H.D.

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Invasion of Nadir Shah and Battle of Karnal.

Third Battle of Panipat.

Alumgir II a virtual prisoner to Panipat, and thus caused a mutiny in the army, the Wazir being dragged through the streets of the city. A horrible massacre followed the outbreak.

49. From this time to the establishment of English rule, a time of horror followed which is still vividly remembered by the people, and was fittingly ushered in by the greatest of all the battles of Panipat. In the rainy season of 1761, Sodashee the Mahratta Bhao marched upon Kunjpara, an Afghan town close to Karnal, which was then strongly fortified, and at which 20,000 Afghan troops were then encamped. He put the whole of them to the sword, and pillaged the country round. Nijabat Khan, the ancestor of the present Nawab of Kunjpara, was taken prisoner on this occasion. Ahmad Shah, who was in the Deob, was unable to cross the Jumna in time to prevent this disaster; but at length he forced the river near Bagpat and advanced against the enemy, who, encamped at the time at the village of Pusina Kalan, where the battle of 1390 A.D. had been fought, retreated to Panipat. There the Mahrattas strongly fortified themselves; and the line of their entrenchments can still be traced on the plain between Risalu and Panipat. The Duransis encamped close in front of them on the plain north of Risalu and Ujhun : and for five months the two armies, numbering more than 400,000 souls, remained engaged in fruitless negotiation and constant skirmishes. The accounts of the horrors of that time given by the people are very striking. The whole country round was devastated by the opposing hordes, and the inhabitants fled, insomuch that the people say, that besides the town, only the three villages of Phularak, Daha, and Bala were inhabited at the time of the actual battle. The Duransi army had free access to their camp on all sides, while they gradually confined the Mahrattas more and more to their entrenchments. The latter had long ago consumed all the provisions obtainable at Panipat; at length supplies wholly failed; and on the 6th January 1761 the Bhao advanced to action. The battle is fully described by several authors. The Mahrattas were utterly routed and many of them were driven into the town of Panipat, whence next morning the conqueror brought them out, distributed the women and children, and massacred the men in cold blood. The fugitives were followed all over the country, and killed wherever they were overtaken. It is said that 200,000 Mahrattas were slain in this battle. The people still point out the spot where the Bhao stood to watch the fight, marked by an old mango tree which has only lately disappeared. They say that the Mahratta General of artillery, one Bahram Giri, had been insulted by the young Bhao, and in revenge put no balls in his guns, otherwise the Gilljas as they call the Ghilzai followers of Ahmad Shah would certainly have been beaten; and that the Mahratta fugitives were so utterly demoralised that the Jat women beat them with bangles, made them get off their horses, and plundered them royally.

50. No sooner had the Mahrattas temporarily disappeared than the Sikhs appeared on the scene of action. In 1762 they defeated Zin Khan, the Durani Governor of Sirhind, and took possession of the whole of Sirhind as far south as Panipat. "Tradition still describes how the Sikhs dispersed as soon as the battle was won; and how, riding night and day, each horseman buried his belt, his scabhardi, his articles of dress, his accoutrements, till he was almost naked, into successive villages to mark them as his." Raja Gopal Singh on this occasion seized Jind, Sialian, Panipat, and Karnal, though he was not yet strong enough to hold them; but in 1772 he was confirmed in his possessions up to within a few miles north of Panipat and west of Karnal, as a tributary of the Delhi Emperor. At the same time Gurdit Singh seized Ladwa and Shamgarh up to within a few miles north of Karnal. A considerable part of the Indri pargana fell to the share of Sardars Bhanga Singh and Bhag Singh of Thanesar, and the chiefs of Kaithal and Ladwa, while part was conquered by leaders of little note belonging to the Jumorayan section of the Dallawalia confederacy. The Nawab of Kunjpura managed with difficulty to keep the whole of the revenues of a considerable number of estates, in others he was forced to give a share to the Shamgarh Chief and the Sikhs of Churail.

51. While Indri was conquered by confederacies of horsemen from the Majha, Kaithal fell into the hands of a Malwa Sikh family, closely connected with the Phulkian Chief of Patiala, being in fact the hereditary religious guides of that house. In A. D. 1733 Kaithal was held from the Delhi Government in jagir or farm by one Kaur-ud-din Khan, a Bilochi tribe, who held some important office in the Government; this man was slain in the massacre of Dehli by Nadir Shah in A. D. 1738. Azim-ali Khan, of the same family, seeing the declining state of the Government, endeavoured to shake off his allegiance and assume independence. He gave out the different villages in farm and returned with a force to collect his revenues. Ikhbar Khan, an Afghan, was one of the principal zamindars with whom he engaged, and who sometimes paid but as frequently resisted and appropriated the revenues. Matters continued in this state till A. D. 1751. Inayat Khan, Afghan, a zamindar of some influence, persuaded the people to join him, in resisting the demands of the Bilochis, raised a considerable force for the purpose, and enjoyed the revenues himself. Matters continued in this state till 1755—the successes of the Bilochis and Afghans fluctuating, sometimes one, sometimes the other being successful as each could collect followers—when in the year last mentioned the Bilochis sent a Sayid who encamped at Habi and sent for the Afghan chief; Inayat Khan, suspecting treachery, sent his brother Ghulam Bhik in his stead, and him the Sayid put to death. Inayat Khan fled, and the Sayid obtained easy possession of Kaithal, where he remained three months collecting revenue, but directly his

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*Conquest of Kallial
by the Sikhs.*

back was turned, Inayat Khan again stepped in and assumed possession. In A.D. 1756 Tahawwur Khan, brother of Kamr-ud-din, came with a force to claim his late brother's jagir. He was opposed by Inayat Khan, who was beaten and fled, but a short time after during the same year, having collected a force, the latter made a night attack upon the city of Kallial and obtained entrance at the Sirsa gate; a fight ensued in the streets of the town, in which Tahawwur Khan's brother-in-law, who commanded, was killed and his army dispersed. The Afghan or attacking force consisted of only 500 men, while that of the defeated Sikhs amounted to 1,000. Thus ended the Bihak province; rule it cannot be called. They were never able to make head again, and Inayat Khan was left in undisturbed possession, collecting the revenues and paying tribute to no one. He was not, however, destined to a long or prosperous rule, for he fell a victim to treachery in A.D. 1766. He had long been at enmity with one Azim Khan Marhal, of Samana, who had taken possession of Bhaurak, a village in the pargana, and 5 miles north of the town, of Pehowa. The Marhal invited him to the Kuhram fort on pretence of making up the quarrel, and there murdered him; but lest even to avenge his treachery, for Bhai Balchand and Niamat Khan, brothers of his victim, collected a force, marched against Bhaurak, took it, and put the Marhal to death. The two brothers continued in possession, it cannot be called government, of Kallial till A.D. 1767; when Bholi Dera Singh advancing from Bhurkot encamped at Kallial, where he collected further forces and munitions of war, and then marched against Kallial, which succumbed after but a weak resistance and thus commenced the Sikh rule.

Bhai Balchand died in exile, but his brother Niamat Khan was treated liberally by the conqueror, who conferred upon him several villages in jagir;—one of which, viz. Ujma, his descendants retain to the present day. Thus in the short space of 20 years, viz., from 1738 to 1767, Kallial had changed rulers no less than three times.

	Dominated.	Ruled.
1. Rule of Khan of Bahl	...	A.D. 1738
2. Rule of Baloch	1738	1767
3. Rule of Afghan	1767	1767

Third battle of Panipat.

57. Recalled by the Sikh conqueror Ahmad Shah appeared for the last time in Hindustan, in 1767, and, defeating the Sikhs in several battles, marched as far as Panipat; but as soon as he disappeared, the Sikhs again resumed their hold of the country. In 1771 Bahadur Khan, Governor of Hissar, attacked Jind; but was defeated with heavy loss, while Gajpat Singh again reigned Kartal. In 1773 Naja Khan, the Imperial Wazir, marched in person to restore his authority. The Sikhs invited the aid of Zabita Khan, a Rohilla chief, who had rebelled, and joining their force with him, encountered the Imperial

army at Panipat, and fought a battle said to have been only less terrible than that of 1761. No marked advantage remained with either side; and by a treaty then concluded between the Rajas and the Emperor, the Sikhs relinquished their conquests in Karnal and its neighbourhood, excepting seven villages which Gajpat Singh was allowed to keep, and which probably included Shera, Majra Jatan, Bharrangarh, Bal Jatan, and Bala.

13. But the treaty was not observed; and in 1779 a last attempt was made by the Delhi court to recover its lost territory. In November of that year Prince Parkhaunda Bakht and Nawab Majibuddinah marched out at the head of a large army, 20,000 strong, and met some of the minor Sikhs at Karnal. He made terms with those chieftains, who were jealous of the growing power of Patiala; and the combined forces marched upon that state. While negotiations were in progress, reinforcements advanced from Lahore, the Karnal contingent deserted, bribery was resorted to, and the Imperialists retired precipitately to Panipat. About this time Dharam Rao held the southern portion of the district on the part of the Mahrattas, and was temporarily on good terms with the petty Sikh chiefs north of Karnal. In 1780 he marched, at the invitation of the Phulkian chiefs, against Kaithal and Ambala; and after some successes, and after exacting the stipulated tribute, withdrew to his head-quarters at Karnal. In 1786 Raja Gajpat Singh of Jind died, and was succeeded by his son Raja Bhag Singh. In 1787 Begam Samru was operating against the Sikhs at Panipat, when recalled to the capital by Ghulam Kadir's attack upon Delhi. In 1788 Amba Rao united with Zabita Khan's son to make an incursion, and was again joined by minor Sikhs at Karnal, and levied a contribution on Kaithal.

14. In 1789 Scindia, having killed Ghulam Kadir and reinstated Shah Alam, marched from Delhi to Thanesar and thence to Patiala, restored order more or less in the country west of the Jumna, and brought the Patiala Diwan back with him as far as Karnal as a hostage. In 1794 a large Mahratta force under Auta Rao crossed the Jumna. Jind and Kaithal tendered their humours; but the Patiala troops surprised the army in a night attack, and Auta Rao retired to Karnal. In 1795 the Mahrattas once again marched north, and defeating Raja Bhag Singh at Karnal, finally wrested that city from him and gave it over to George Thomas, who took part in the fight. He had also obtained the jagir of Jhajjar, and making himself master of Bissau, buried the neighbouring Sikh territories; meanwhile Sardar Gurdit Singh, of Ludhiana, obtained possession of Karnal. In 1798 Begam Samru was stationed with her forces at Panipat to protect the western frontier during the struggle with Jaipur. In 1802 Scindia sent General Porson, to whom the pargana of Panipat had been granted, to bring the Sikhs to order. He recruited at Karnal,

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where the Nawab of Kunjpur joined him; but matters were settled amicably, and the army returned via Panipat, where they were joined by Begum Samru, and took advantage of the opportunity to chastise Naushah and other large villages for not having paid their revenue to Perron's Collector. In 1801 Thomas made a foray through Karnal and Panipat, and then retreated to Haasi. The Sikhs asked the Mahrattas for help against him; and Scindia, on the Sikhs promising to become his subsidiaries and pay him five lacs of rupees, sent General Perron against him. In the battle that followed Thomas lost all his conquests, retired to British territory and shortly afterwards died. Sufideen and Bhurat were then made over again to Jind by the Mahrattas. The people of Bhagal in the north of Kaithal still tell how Thomas carried off hostages from their town and only released them when ransomed by the Bini of Kaithal.

Conquered by the
English.

55. On the 11th September 1803, Lord Lake defeated the Mahrattas at the battle of Delhi; and on the 29th December, Dadaji Rao Scindia, by the treaty of Sirji Anjaugam, ceded his territories in the north of India to the allies: while the Partition Treaty of Poona, dated five months later, gave the provinces about Delhi, from that time known as the conquered provinces, to the English. The chiefs of Ladwa and Thanesar with five thousand Sikhs fought against us at the battle of Delhi. Immediately after the battle Begum Samru made her submission to General Lake; and Bhag Singh of Jind and Lal Singh of Kaithal were hardly less prompt. Their advances were favourably received, and in January 1805 they joined their forces with ours. The Sikh chiefs, who had actually fought against us at Delhi, continued to display active hostility, till they were finally routed by Colonel Town at the end of 1805. In March 1805 an amnesty was proclaimed to all the Sikhs on condition of peaceable behaviour; but Gurdit Singh of Ladwa was expressly excluded from this amnesty, and in April of the same year the English forces marched upon his fort of Karor and captured it.*

State of the country
in 1805.

56. So ended that terrible time called by the people Singhsahi, i.e. Rain-Hauts or Bhagwari, the "Sikh hurly-burly," the "Mahratta marchy." Its horrors still live vividly in the memory of the villagers. The Sikhs never really established their grasp over the country south of Panipat; and they held what they did possess only as feudatories of the Mahrattas. But the whole period was a constant contest between the two powers; and that tract formed a sort of no-man's-land between territories, and, coveted by both but protected by neither, was principally the prey of the strongest and most audacious free-booter of the

* Appendix to the original annexes to the Treaty of Sirji Anjaugam, the rent under the latter was laid as follows—Karnal, annual value Rs. 14,000 by Begum Samru, Rs. 1,000; Panipat, Rs. 20,000, by General Perron; Panipat Rs. 80,000 by Dadaji Rao; Chander, Rs. 4,000; Roopnagar, Rs. 20,000; and Sambhar Rs. 1,16,000, by Colonels John and Geo. Hastings. The whole list is extremely interesting.

day whether boiling from the Panjab or the Deccan, for nothing cared to spare for to-morrow what he might only possess for to-day. Even as early as 1783, Naulir Singh had to approach Delhi by way of the Doab, as owing to the constant passage to and fro of the Mahratta troops, the country was so desolated that supplies were unpurchasable; and 10 years later, when we took over the district, it was estimated that "more than four-fifths was overrun by forest, and its inhabitants either removed or exterminated." The arrangement of the villages in groups of small hamlets, sprung from, and still holding subservient relations with the large parent village, made the concentration of the population in a few strongholds natural and easy, and out of 221 villages in pargana Karnal the inhabitants of 175 had been wholly driven from their homes and lands. The royal canal had long dried up, and thick forest had taken the place of cultivation, and afforded shelter to thieves, vagabonds, and bands of prey. In 1727 Mr. Archer remarked that "only a very few years had elapsed since this part of the country was inhabited wholly by wild beasts." Deserted sites all along the old main road still tell how even the strongest villagers had to abandon the spot where their fathers had lived for centuries, and make to themselves new homes on sites less patent to the eyes of marauding bands. Every village was protected by brick forts and surrounded by a deep ditch and a wall of stone; every group of villages was at deadly enmity with its neighbours; and there are several instances where two contiguous villages, in memory of a blood feud dating from the Mahratta times, refuse to this day to drink each other's water, though otherwise on friendly terms. In 1829 the Civil Commissioner reported and the Governor-General endorsed his conclusion, that "the native administration took no concern in criminal justice or police, any further than at its interferences in these respects might be made subservient to its immediate pecuniary gains; and that the village communities, while they held the property of their own society sacred, habitually committed depredations and aggressions on other villages or on travellers, and generally shared the plunder they obtained with the ruling power or principal local authority. In consequence administration there was none; the cultivator followed the plough with a sword in his hand; the Collector came at the head of a regiment; and if he fared well, another army followed him to pick up the crumbs."

57. Meanwhile Lord Wellesley had returned to England and Lord Cornwallis had been sent out expressly to reverse his policy. The leading feature of the new programme was the withdrawal from all the recently acquired territory west of the Jumna. And as that territory had to be disposed of, it was natural that the petty chieftains who had done us service in the late struggle, even if only by abstaining from or relinquishing opposition to us, should be rewarded. The whole

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country was therefore parcelled out between them and others. In the words of General Sir David Ochterlony who superintended the whole arrangement—

"In the acts of that day I see many of most lavish and impulsive profusion—but not one in which I can recognise true British liberality and generosity. The fact is notorious that the policy of those times considered the rest of our acquisitions beyond the Jumna as inconsequential; and the Governor-General's Agent's only embarrassment was, how to dispose of what Government had declared they could not or would not keep, in the manner least likely to be ultimately injurious to our vital interests. With this object in view he formed a belt of *Jajardars* round our ultra-Jumna possessions from Karnal to Agra."

The sovereign powers of the Raja of Jindhi, Kaitial, Laiwia, Thanesar, and Shingarpur and of the Nawab of Kunjpura, were confirmed and they were contained in the lands held by them under treaty from the Mahrattas, except that Laiwia was deprived of Karnal, as already mentioned. Besides this Sindh was granted Gohua, and the five villages of Shera, Majra, Jatam, Baljatan, Bala, and Dharmgarh or Marana; and he and the Raja of Kaitial had the *pargana* of Baraut-Faridpur, made over to them jointly. The villages of Uchhu Siwana, Rainpur, Banwar, Kambohpura, Kaila with Mangalpur and Piplawali, were made over to the Nawab of Kunjpura. The Mandals, who held large jagirs in Muzaffarnagar, were induced to exchange them for so much of *pargana* Karnal as was left unallotted, the grant being made in perpetuity subject to the payment of a fixed quit rent. Begum Samru received considerable grants, including some villages of the tract, in addition to her original set of Sarhindu; and considerable grants were made to people who had done good service, and notably to Mirza Asiraf Beg and Sje Rostam Ali, about 1870. The jagirs which had been given in 1805-6 were declared grants for life only and were taken under our police supervision. They were gradually resumed on the death of the holders. In 1809 the Sindh Raja endeavoured to obtain from Government his old *pargana* of Karnal, but the *pargana* had already been allotted, and the endeavour was unsuccessful.

*Final assumption of
sovereignty by the
English.*

58. The policy which induced us obtain from interference west of the Jumna did not long stand the test of actual practice. In 1808 Ranjit Singh crossed the Sutlej with his army and marched to Thanesar, and it soon became apparent that either he or we must be master. The events and negotiations that followed, how the Sikh army marched about within 20 miles of our lines at Karnal, and how we were compelled to insist upon Ranjit Singh's withdrawal beyond the Sutlej, are told in most interesting detail by Sir Lovel Griffin in his *Punjab Rajas*. The treaty of Lahore, dated 25th April 1809, and the proclamation of the 3rd of May following, finally included the country to the west of the Jumna in our Indian Empire, and with this event ended the political history proper

of the district. The times are still fresh in the memories of the people, and the names of Lord Lake and Sir David Ochterlony (*Fulyice Lony Ochter*) still familiar to their tongues.

59. By the proclamation of the 3rd of May 1809 the Sikh Chiefs of Malwa and Sindh were taken under the protection of the British Government, and guaranteed "the full exercise of the rights and authority in their own possessions which they had hitherto enjoyed." They were to assist any British force passing through their country, and to aid in repelling invasion.* Two years later, a proclamation, dated August 22nd, 1811, announced the determination of Government to turn a deaf ear to all complaints against the chiefs brought forward by their subject *zamindars*, who were warned that "the attainment of justice was to be expected from their own chiefs only." At the same time it was proclaimed, that the violent attempts by one chief or confederacy to seize upon the property of another, such as had been common in the past two years, would not be tolerated. It was doubtless the intention of Government to abstain, as far as possible, from interference in the *Cis-Satlar* States, but the history of the next forty years is one of increasing control on the part of the English officers, and waning authority on the side of the chiefs.*

The Resident placed at Delhi after the defeat of Scindia, had charge of all our political relations with protected or independent States in the north-west of India; but though Sir David Ochterlony, who was stationed at Karnal, was theoretically subordinate to him, he really was the chief agent of Government in all affairs connected with the dependent chiefs. He was himself appointed Resident in 1819, and had assistants at Karnal, Ludhiana, and Saharan.

In 1821, the Resident at Delhi was replaced by a Governor-General's Agent, and the officer stationed at Karnal was made Superintendent of all the protected and Hill States. Next year the latter's office was removed to Ambala. In 1840, a Governor-General's Agent for the north-west frontier was appointed, with his head-quarters at Ambala. He had political control over all the Sikh States from the first, and in 1842, the civil jurisdiction in the lapsed territories, which had remained with the Agent at Delhi, was transferred to him.

Bhang Singh's share of the Thavesar lapsed in 1830 and Bhanga Singh's in 1850. Part of Sindh was acquired in 1854 and the Kalpi State was taken over in 1855. These

* It was impossible that the engagements made in 1809 should be literally fulfilled. They were founded on a total misapprehension of the political circumstances of the *Cis-Satlar* States, and the extraordinary manner in which a large part of the country was held by confederacies of Sikh horsemen, each of whom had a very petty share. "In 1812 Sir David Ochterlony frankly admitted to the Marquis of Hastings that his proclamation of 1809 had been based on an erroneous idea. He thought that a few great chiefs only existed between the Jumna and the Sutlej, and that no others would derive the maintenance of order." (Conolly's *History of the Sikhs*, page 267).

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History.**

*Relations of the
Native Government
with the Old-Sikhs
Chiefs.*

lapses were due to the failure of the families of the original conquerors and there were many petty *raikars* from the same cause. Immediately after the annexation of Kairthal a group of 26 outlying villages known as Maluka Giddu was made over to the Raja of Jind in exchange of 30 estates lying to the south and east of Rohtak. In 1848 the Ladwa State was confiscated as a punishment for treason in the Sikh war.

When the Kairthal State was vacated, an assistant to the Governor-General's Agent was stationed at Kairthal, and when Thanesar and Ladwa lapsed, they were included in the Kairthal District.

*Reduction of chiefs
to the status of
peasants.*

60. For a considerable time our interference in the affairs of the dependent chiefs was mainly confined to the decision of disputes as to succession, and the settling of quarrels between State and State as to the territorial or criminal, the restoration of stolen property, &c. The internal government of each State was left in the hands of the chief, who enjoyed paramount criminal, civil, and fiscal powers. In all the larger, and some of the smaller States, transit dues were levied. As subjects crossed our territory became much intermixed with that of the independent chiefs. Constant difficulties arose as to the surrender of criminals who had fled from our jurisdiction or from one Sikh State, into another. In all but the most heinous cases, the chief in whose territory a criminal was found, was left to deal with him, and debtors and revenue defaulters were secure, once they had crossed the boundary of a neighbouring State. It was not uncommon to find four or five rival jurisdictions within a radius of 10 miles, and sometimes two existed in a single village. Such a state of things was productive of extreme administrative confusion. In the first Sikh war, some of the chiefs were actively hostile and others lukewarm and in 1847 all were deprived of their criminal jurisdiction. This was a great boon to the people of the country, who still speak with strong dislike of the "faujdar" of the *jagirdars*. In the same year the feudal service, which the latter were bound to render to Government, was abolished, and in lieu of it a commutation tax of Rs. 10 per manum for every horseman, and Rs. 6 per manum for every footman, whom they were bound to furnish, was imposed. This was afterward commuted into a tax of two annas per rupee of revenue in jagir relation. In some cases the rate of commutation is higher, in a few it was reduced to one anna in the rupee for services rendered during the mutiny.

Two years later, the *jagirdars* were deprived of their civil powers, and made amenable to our courts. Thanesar, Kairthal, and Shamgarh were deprived of sovereign powers and reduced to the position of simple *jagirdars*. Finally in 1856, all jagir estates not already settled at the request of the *jagirdars* or

Karnal District.)

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estimable, were ordered to be put under cash assessment.

61. It will be convenient to give here a brief account of the Sikh families which ruled in Kaithal, Thanesar, and Ludwa.

62. The Kaithal State, as it was constituted when it passed by descent into the hands of the British Government, was acquired by Bhai Dera Singh, the 4th son of Bhai Gurbaksh Singh, himself a descendant of a Rajput chieftain of Jumnamor. The father of Gurbaksh Singh, Bhai Ram Daul, had a great reputation as a saint. Gurbaksh Singh himself "had little of the saint about him, and thought more of possessing territory than of religion." With the countenances of Raja Ali Singh, of Patiala, whom he had accompanied on many expeditions, he conquered a number of villages for himself, including some in the north of the present *Kaithal tahsil*. He left five sons, among whom his possessions were divided. The second son, Bhai Dera Singh, enlarged his dominion, first by the capture of Kaithal in Sambat 1824 (A.D. 1767), and then by the conquest of Chiku and Pehowa. He or his brother Budha Singh also seized Thanesar, Amin, and other estates in Indri, but Thanesar was soon lost, and most of Bhai Dera Singh's possessions in Indri fell into the hands of the chiefs of Thanesar and Ludwa. Bhai Dera Singh appears to have been a man of violent and dexterous character. He built the original fort of Kaithal and several smaller forts about the district, and brought a water-course from Mangan to Kaithal. He had four wives, i.e., Kankaur, mother of Bahadur Singh; Ramkaur, mother of Khushal Singh; Mai Bhooli, no issue; Mai Bhagwan, mother of Lal Singh. Jagat Singh Masih became his agent and adviser. He died about 1779 having ruled 11 or 12 years. He amased about 10 lakhs of rupees, and the knowledge of this is said to have excited the envy of the Raja of Jind and Patiala that they caused the agents of the Delhi ruler to entice the Bhai to Delhi under pretence of having a jagir conferred upon him. On his arrival at the seat of Government, Dera Singh was confined, and only released on the promise of paying 4 lakhs of rupees, 3 of which he paid and gave his son Lal Singh as security for the remainder.

Of his three sons, Khushal Singh, having died in childhood, is never mentioned. Bahadur Singh succeeded to the rule, his elder brother being under restraint at Delhi;* but Lal Singh's mother having obtained his release on payment of Rs. 40,000, he shortly returned and assumed the government, driving his brother, who strongly opposed him, to Kulacan. There Lal Singh acquired Baddoda, but was immediately put to death by hired assassins instigated by his worthy brother. Lal Singh

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Account of families
of former ruling
chiefs.
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* Griffin (*Present Rajas*, page 48) says "Lal Singh was in confinement as a rebel against his brother."

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History.The Sikh State of
Kaithal.

enlarged the dominions which he had inherited by fresh acquisitions, and he was, in 1809, the most powerful of the Gis-Satjej chiefs after the Raja of Patiala. He is described in the Raja of the Panjab as "a very able man, though utterly untrustworthy, and so violent and unscrupulous that the English authorities had the greatest difficulty in persuading him to maintain anything like order." He resided chiefly at Kaithal. He drank deep, but appears to have been held in some respect by the lesser chiefs, who submitted frequently to his arbitration. He did good service to Purna in defeating George Thomas, and was rewarded in consequence by the gift of *pargana* Sullur on payment of a ransom of Rs. 60,000, little better than one year's revenue. His services were acknowledged by Lord Lake and rewarded by a handsome *sajir*, Galwan, in which, however, he had only a life interest. He added to the fort of Kaithal, indeed may almost be said to have built it, for it was nothing but a mud building before. Its picturesque towers are now visible for a long distance. He ruled for 33 years, dying about 1819 at the age of 49. He left behind him the character of a tyrant. On his death, his sons being 3 and 4 years old respectively, the government was carried on in the name of the elder Partab Singh, under the regency of his mother Sahib Kaur; but the boy only lived to the age of 12 years, and died of small-pox in 1823. Bani Udo Singh,* still a boy, succeeded under the regency of Sahib Kaur, who even in after life had great influence over him; indeed she was more the ruler than he was, and to this perhaps may be attributed his being at variance with the neighbouring chiefs and at constant issue with his own villagers. He resided chiefly at Kaithal but frequently at Pehowa, and both places bear witness to his taste for architecture. He enlarged and beautified the fort of Kaithal, built the palace after the model of the house of Sir David Ochterlony at Karnal only on a more imposing scale, and near it a bridge over the Bulkiar Tirath, remarkable for nothing but want of breadth and its level surface. At Pehowa the garden house does great credit to the taste of the architect, but was left incomplete on his death. He built a house and laid out a garden likewise at Kankul near Hardwar. A masonry band that he erected across the Sarusti, near Pehowa which threw water down a cut irrigating numerous villages for 16 miles to Kaithal, was destroyed by the British authorities after his death. He is described as debauched in private, in public a tyrant. He was bed-ridden for some years of his later life, and died at Kaithal on the 14th of March 1843 A.D. when the state lapsed, failing heirs, to the protecting power. Mr. Greathead was sent with a small escort to carry out orders of Government. But the Queen mother and her advisers, encouraged by the

* "It is right that I should express my belief that the late Bani Udo Singh was not the son of Bhai Lal Singh, and that the latter, when a prisoner at Delhi, was rendered incapable of having children." Report of Major H. M. Lawrence, dated 20th April 1844.

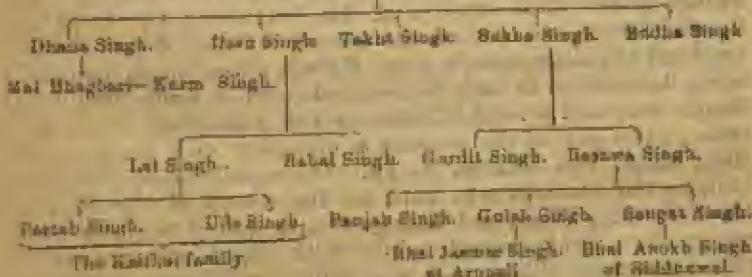
secret advice of the agents of the Rajas of Patiala, Jind, and Nabha, met every demand with an evasive answer. A strong remonstrance was addressed to the Bajas, and their agents were in consequence withdrawn. But things had gone too far for a peaceful settlement. On the 10th of April a riot broke out in Kaithal, and Mr. Greenhead's escort was attacked and forced to retreat. Re-enforcements were despatched and the town and fort were speedily recaptured. The Queen mother was allowed to settle at Pehowa where she died, never having to the very last moment given up her hope of restoration to the government of Kaithal. The suggestion was also claimed by Gulab Singh, the Bhai of Aranali, a collateral relation of Udo Singh. But it was held that Gulab Singh had no claim to any of the conquests made by Desu Singh, but only to villages acquired by his own grandfather Sukha Singh, or by Gurbaksh Singh, father of both Desu Singh and Sukha Singh. A handsome allowance was made to Mahabir Kaur, widow of Udo Singh.* The genealogical tree of the family is as follows:—

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The Sikh Dynasties of Kaithal.

BHAIS OF ARANALI SINGHS.



The Bhais of Aranali came under the reforms of 1849, and ceased in that year to exercise any administrative functions. The present representatives of the family are Bhai Jammer Singh, who resides at Aranali in the northern portion of the Kaithal tehsil, and Bhai Anokh Singh, who resides at Badlada or sometimes at Hidhawal near Patiala. They are Honorary Magistrates within the limits of their jagirs.

63. The founders of the Ladwa state were two brothers named Sabib Singh and Gurdit Singh, who belonged to the Kherasinghia miel. They came from the Mardhs, and, after the battle of Sirhind, established themselves at Dabrian red hukras. Their principal conquests are now included in the Pipli tehsil of Ambala, but they held a number of villages in India, some of which were made over to Kirpal Singh, the brother-in-law of Sabib Singh, and now form the Sags and

* For further particulars as to the Kaithal family, see the Postscript to Major Lawrence's "Report on the Kaithal territory" and Major Abbott's "Banting Report."

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Political
History.

The Chiefs of
Ladwa.

Shamgarh jagir. Sahib Singh was killed in action near Kartal. Gurdit Singh was succeeded by his son, Ajit Singh, who obtained the title of Ruja from Lord Auckland for building a bridge over the Sarsuti at Thanesar, and also as a compliment to Maharaja Ranjit Singh, to whom he was related. He is described as "a dissipated, ill-disposed person, a tyrant in his own family, and as a chief, perfectly reckless" (article in *Calcutta Review* of October 1844 by Sir H. Lawrence). In the first Sikh war he threw in his lot with the Lahore Darbar, and joined the Khalsa army which was operating in the neighbourhood of Ladhiana. He was captured and imprisoned at Allahabad, but destroyed his jader and escaped. His sons were kept under surveillance at Saharanpur, and he himself is believed to have died in Kashmir.

The Chiefs of
Thanesar.

64. The founder of the Thanesar chiefship was Mith Singh. Captain Larkins states in his report on the Summary Settlement of Thanesar that Mith Singh was of a family of Nidga Rajputs of the village of Ajuula, taluka Panchgranjan in the Manjha; but Captain Abbott states that he was a Jat, that his home was at Bhanti near Sarhala in the Manjha. He embraced the Sikh religion at Amritsar from the hand of Gurdial Singh, and entered the service of Tara Singh Ghosha, the head of the Dallowalia misl. He was a fine young man and, being determined to lead, he deserted with a party from Tara Singh, mastered several villages in the Jalandhar Doab, and came to this part of the country in company with his nephews Bhag Singh and Bhanga Singh. The royal fort at Thanesar built by the Marathas was held by the troops of the Raja of Kaithal; Bhag Singh and Bhanga Singh waited their opportunity in the neighbourhood, while Mith Singh advanced with the conquering Sikhs, and was killed at Meerut. Bhanga Singh and Bhag Singh, with the assistance of the Ladwa Sardars and Karan Singh Niraula of Shahabad, after one failure, made a successful night attack and possessed themselves of the fort of Thanesar. After the death of Bhai Dera Singh of Kaithal, a large part of his possessions in Indri, and some estates now in Pohowa, fell into the hands of the two Thanesar Sardars and of the Ladwa Chief. The territory conquered by Bhanga Singh and Bhag Singh comprised a number of estates in the present Indri pargana, some villages in Pohowa, and a large tract in the Pipili tehsil of Ambala. A partition was made Bhanga Singh taking the and Bhag Singh the. Sardar Bhanga Singh was a savage and determined ruler, and was the only Cis-Betlaj Chief whom Ranjit Singh feared. He seized Ghiasoldin Nagar, east of the Jyuna, but the Maratha Bhao Raas took it from him and gave him Bidanli instead. Lord Lake gave him some other territory east of the Jyuna, in exchange for Bidanli; and it was held by him during his life. In 1806, with the assistance of the Ladwa Sardar Gurdit Singh, the Dallowalias wrested Adoba

and Singhgar from the Landowalia *misl*, and Adohia was assigned as Bhanga Singh's share of the conquered territory. It was taken from him and restored to the Landa *misl* by Ranjit Singh; but when those territories came under British protection it was retransferred to Bhanga Singh. He died in 1815, leaving a son, Fattal Singh, and a daughter by his wedded wife, and a son, Sahib Singh, by a concubine. The daughter, Karm Kaur, married Karm Singh, the Raja of Patiala, and six villages in Indri were given as her dowry. Sahib Singh had a *jagir* of 9½ villages in Indri, and was succeeded by his son, Bishan Singh, who died a few years ago without male issue. The remainder of Bhanga Singh's estate descended to his son, Fattal Singh, who died in 1819, leaving a mother Mai Jiani and two young widows. Mai Jiani managed the estate till 1830 and died in 1836. Ratan Kaur, one of the widows, died in 1844, leaving the other widow Chand Kaur in possession of the estate, which lapsed on her death in 1850. Bhag Singh, the brother of Bhanga Singh, died in 1791, leaving four sons, three of whom died childless. The estate descended to Jamist Singh, the son of the youngest brother, Baj Singh, who also died childless in 1832, when the estate lapsed.¹⁾

65. The state of that part of the Karnal District (*Lahail Panipat and pargana Karnal*), where the Sikh power had never been firmly established when it came to us in 1803, has already been described at page 42. In Indri and Kaithal the Sikh rule lasted for about 80 years. Its character varied with the character of the chief for the time being, but it was generally harsh and tyrannical. How bad it could be under a vicious ruler may be gathered from Captain Abbott's description of the state of things he found existing in the Ladhwa State when it was declared forfeit, on account of the Raja's conduct during the first Sikh war. "The Jats . . . were fearfully oppressed and many of their number driven to seek subsistence in other territory. The oppression was not confined to the taxes I have enumerated, but their men were obliged to attend on the Raja and were forced to take the Sikh religion. Their grounds were taken for preserves, their cattle seized and appropriated if caught trespassing in their jungles, in which, however, they were allowed to graze on payment of a fixed sum per head of cattle."

The Raja of Kaithal had a sturdier population to deal with, and oppression was sometimes met by armed resistance. Major H. M. Lawrence, Assistant Agent to the Governor-General, N. W. Frontier, held charge of Kaithal for six or seven months after annexation. In the various reports which he submitted a striking picture is presented of the state of disorder to which the tract

(1) The above account of the Thanesar family is chiefly taken from Mr. Wynyard's *Statement Report of Thanesar*. It differs in some particulars from that given at pp. 22—23 of Griffin's *Punjab Rajas*.

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Sikh rule in India
and Kothal.

had been reduced by the harsh rules of Udo Singh. Every man's hand was against his neighbour. Bloody feuds were of constant occurrence, and the officers of the Sikh Government found it often to their interest to go shares with the marauders. The frontier villages especially were at constant war with their neighbours in Jindh and Patiala. The cattle went to grass guarded by herdsmen armed with matchlocks, the very wells had to be protected by towers in which the cultivator could take refuge with his implements of husbandry on the occurrence of a sudden alarm. The smaller villages were robbed by their Government on the one hand, and by their more powerful neighbours on the other. Many were altogether deserted, the owners taking refuge in larger villages which were able to defend themselves both against their rulers and their fallen subjects.

Soon after leaving Kothal Lawrence wrote:—

"The inhabitants are a very fine race, excellent cultivators, bold in hard times and dry seasons, as excellent marauders. A single Jau village of Kothal has been known to drive off in open day, a thousand head of cattle from Nabbir, Jhind, Patiala, or Karnal; and within the week the herd are scattered among the villages of Meur or Saharsapure, a hundred miles off. The other two-thirds of the population are Bangars (Mussoorie Rajputs), Gogurs, and others, some Hindus, some Mohammedans, but all cultivating very little, grazing and cattle lifting a great deal. We have seen a Bangar village, with fifty or sixty poor thatched wells, all but one in ruins, and thousands of acres of fine land allowed to run to waste. Indeed, except in a few Jau villages, the cultivation in the midst of the forests of small stunted Jhund (a mimosa) and Neem trees, or even from the top of any of the robber towers, seem as little islands in the midst of the ocean. The people in fact live by stealing, and by the sale of ghee and milk, the produce of their flocks, and are, or rather were, as ready for a raid as crop were the MacGregors and Campbells to harry their lowland neighbours. We happened shortly after the lapse of Kothal to be riding along the Jhind and Kothal border with Rajah Sircop Singh, when seeing a party of villagers sitting merrily while with their cattle trampling out the sown fields for rice cultivation, he laughing said "Ah, Sahib, they dare not have been the employees a year ago." "Why not?" we asked, and were answered "Because their neighbours would have been down upon them, and driven off their cattle" (Lawrence's *Calcutta Review* of October 1844).

Great estates like Chhatar, Pari, and Bhagal would not stand much oppression.

"The people were accustomed to pay no revenue except upon absolute compulsion.....Kothal was some years ago as lawless a tract as any in India, but smoothing, I hope, has been effected for its improvement.....In my instance the Jau village of Chhatar which was formerly the very head-quarters of opposition to authority, and is said never to have admitted a Sikh within its quietest hedge. It was reckoned able to turn out a thousand matchlocks, and the four wards of the village were barricaded against one another" (Lawrence's Settlement Report).

The Jat of Pali withheld the army of the Bhai, though assisted by the forces of the Jindha chief, for eight months. The Tular Rajputs of Gomthala showed their independence by threatening Bhai Lal Singh with brickbats if he attempted to violate the privacy of their houses by riding through the village on an elephant. The Bhai had the good sense to take this rough remonstrance in good part, and remarking "We Jats have no *paris*, but they have," ordered the elephant to be taken round the outside of the village.

The Sikh system of revenue collection will be described in a later chapter. In practice it consisted in squeezing the weak dry, and getting as much out of the strong as they would pay without resorting to armed resistance.

The artisans in Kaithal seem to have been heavily taxed, if the local rhyme is to be trusted.

"Bakhha jukha
Ki kaho Bakhahu kana
Panoh rapiya ek thana.

Bakhha dholi
Ki kaho Bakhahu katra
Panoh rapiya ek pather."

which means that the Bhai orders the one-eyed Bakhahu, his kinsman, whom he also calls familiarly a buffalo's calf (*katra*), to levy five rupees for each loom and washing board.

60. Crimes of violence were rife, and, where any courts existed, they were corrupt and ineffective.

Administration of justice.

"As elsewhere shown, all crime is punishable at rather enormous by-laws; the robber pays his "blood" (guilt) and goes to rot again, and only when maiming himself very notoriously or crudely plundering his master's subjects, instead of those of his neighbours, he may have his right hand cut off, or be chained in an outer room or verandah of the house, fort, or castle of his ruler, until his friends ransom him..... The fact is that justice is a farce in all native states; the gaoler pays his share, and the hout [the *parasang*] and while the latter (the law) is only a mullet upon salaried jaws, the former, the grateful present, added to labour and expense, may entail ruin, making the injured always prefer private arbitrations, and yielding up half their stocks to preserve the other half..... In Kaithal it was, and in Patiala it is still, the fashion for the judges to pass sentence years in imprisonment on the bonds; probably as a means of eliciting fee the Sirdar (Government) a portion of the bribe supposed to have been given." (Lawrence in *Calcutta Review* of October 1844).

If this was the state of things in the larger states, it may be conjectured that disorder was still more rife in the villages owned by petty patildars, too weak to govern, but strong enough to oppress. Theoretically the Sikh patildar with a fractional share of a village was as much a sovereign as the Kaithal or Jindha chief.

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Sikh rule to 1846
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"Every Sikh in his patial afforded perfect independence. Great are the evils that have arisen therefrom to the unprotected states. According to the treaty they were as long as possible not interfered with, and every Sardar and every patidars, large or small, was his own magistrate as far as his own internal arrangements went—the political agent only having authority in the quarrels and border disputes between one Chela and the other, or where robbers passed from one state into another. But it was soon found that, although some of the Sardars managed their estates well enough, others, and the petty patidars especially, harboured robbers and tyrannised over their cultivators. Indeed, as their own families increased and war and rapine decreased, there being no bold left open but the Patial army and agriculturist for their sons, these patidars have tried every means of driving the sole cultivators from their lands, so that they might, through slaves or personal servants, cultivate the soil for themselves. Strictly speaking, we had no right to interfere even under Sikh oppression, but having laid themselves open by harbouring thieves and robbers, they were deprived of magisterial powers." (Lawrence in *Calcutta Review* of October 1844).

In reviewing Lieutenant Barr's journal of his march from Delhi to Peshawar in 1889, Sir H. Lawrence gives a graphic sketch of the state of Indri at a time when only some thirty of its villages had passed to the British Government, and the rest were the patrimony of Thanesar, Jadwa, Kunjpara, and a number of petty chiefs and patidars, that it is worth while quoting his remarks at length.

"Our author marched from Delhi to Karnal, half a dozen miles beyond which city he entered the protected Sikh states. The first place which he takes down in his journal is Aizamabad, more generally known by the people as Telowar.¹ It is a large town,² faced in the annuals of the last hundred years as the scene of a great battle. It has been in many hands and is now in no unpleasant a predicament as any corporation can desire, that is, it belongs in equal shares to the Patan Nawab of Kunjpara and the Shamgarh Sikhs. Partnerships everywhere offer trials of temper; but it is not easy to conceive the contentions between Sikh and Patan co-partners, each, and particularly the stronger party, always desiring to cut the junior short by a stand-up fight. These feuds often involve the loss of corps to the parties, and between them the cultivators and traders fare most wretchedly. Three miles further is La-liehara,³ which is thus described:—

"We reached La-liehara, which is about eleven miles from Karnal, at half past seven, and pitched our camp just beyond the extremity of the village, which is small and protected by a mud

(1) The peasant was not unfamiliar with oppression before he submitted under the Sikh rule, but his agricultural fields had rarely been interfered with. The ruling of the Sikh rule lay in this that the master had planted at his own doors a village-tyrant of peasant extraction like himself, who cast greedy eyes on his lands, and had time and inclination for一切 sorts of petty oppression.—J. M. D.

(2) i.e., Tisnaw.

(3) The name even then may have been an exaggeration. The place possessed a fine imperial road and a good bazaar, but was never large, and is now greatly decayed.

(4) i.e., Nishkam.

wall. Two or three lofty buildings stand in the centre of it, and are evidently intended as watch towers, whence a good look out may be kept" (Barr's *Gulsool and Panjab*, p. 11).

On leaving Leokhhera it is observed:—

"Circular towers, similar to those at Leokhhera, constructed either of brick or mud overlooked the neighbouring district, and stood in the midst of every collection of huts, which, as far as I could observe, was invariably enclosed by a mud wall, thereby plainly indicating that the protected Sikh States, which we had entered this morning, are, or have been, at no distant period, subjected to the mighty proceedings of predatory marauders" (Barr's *Gulsool and Panjab*, pp. 11 and 12).

Lieutenant Barr may well say so, and had he gone down the Beodhara road to Ferozepore or through Kahlia, he would have been still more convinced of the original propensities of the inhabitants of the protected Sikh States. Such towers used to protect every *wali* in the country—the three at Leokhhera were probably built in opposition to each other by rival leaders of the little town or rather village. It is now singly held by an old lady as her principality, though yielding less than a hundred pounds sterling a year. It was the chief place of a circuit of a dozen or so villages, held in co-partnery by different Sikh chiefs and parties, but now divided off into separate states. The neighbourhood is a very bad one; and we wonder much that Lieutenant Barr does not make a note of his having been robbed. He must have been so, but, perhaps out of delicacy omitted the entry."

67. During the next sixteen years the whole face of the country was changed. Kahlia, Ladwa, and Thaneat lapsed, and the other fiefdoms were reduced to the level of mere assignees of land revenue. After considerable hesitation a cash assessment was given to the *zamindars* in *jagir* estates, but its collection was left in the hands of the *jagirdars*. The country settled down rapidly, and notwithstanding its proximity to Delhi it weathered the storm of 1857 without suffering very serious damage.

Chapter II, B.

Political History.

Administration of Justice.

The mutiny.

When the mutiny broke out Mr. Macwhitter, the Magistrate of Panipat, was at Delhi, and was killed there. Mr. Riachardes, the Uncoventional Deputy Collector, immediately took over charge; and though every other European fled, and the fugitives from Delhi warned him that the rebel cavalry were following on their steps, and though "burning and pillage reached to his very doors," he bravely stayed at his post, kept more or less order in the district, was active in collecting supplies for the troops passing through and for the army besieging Delhi, and succeeded in collecting more than seven lacs of rupees, which he sent to the army. For these services he was appointed Deputy Commissioner of the 1st Class. Directly the news of the outbreak reached Jind, the Raja collected his troops and proceeded by forced marches to Karnal, which he reached on the 18th of May. He restored order in the town and its vicinity, marched down the grand trunk road in advance of the British column, turned his forces on Panipat, recovered Simbhalka which had been seized by the rebels, and

Chapter II. B.

Political History.

The mutiny.

kept the road open between Karnal and Delhi. The Maharaja of Patiala was no less prompt. He held Karnal, Thanesar, and Ambala in our behalf, and kept the road open from Karnal to Phoolpur. The Chauhans of the Karnal Naulak behaved well. They raised a regiment of cavalry, and they also supplied a body of 250 chandars for the protection of the city and civil lines, where our ordnance magazine was established. The Maulvi Nawab of Karnal, Ahmed Ali Khan, from the very first placed himself and his resources unreservedly at our disposal. For these services his quit-rent of Rs. 5,000 a year was released to him and his heirs male in perpetuity; and he was presented with a khatai of Rs. 10,000 in open dharbar.

In the Thanesar district Captain McNeile was Deputy Commissioner. His principal difficulty arose from the presence of a company of the mutinous 5th Native Infantry, which obliged him to have always at hand part of the Patiala forces to keep them in check. The disarming of this company on the 14th July set the Deputy Commissioner at liberty, and from that time he made his head-quarters at Karnal. Mr. Lovion, the Assistant Commissioner, was detached to Shahabad, and Lieutenant Parsons was sent from time to time to reduce turbulent villages, especially towards Kaithal, or to watch the fords and ferries of the river Jumna. In anticipation of a visit from the Delhi mutineers, Captain McNeile had, at the first, destroyed the stamp paper, and soon afterwards sent his treasure to Ambala; while the jail was fortified and the jagirdars called out. At one time it was rumoured that Raingbars from Hissar purposed to rescue their fellow-slaves from the Thanesar jail, and the 31st May was the date fixed upon for the attack. Every preparation was made to repel it, but it did not take place. The Raingbar prisoners were immediately afterwards secretly removed to Ambala to be beyond hope of rescue. On June 8th the Raja of Patiala was compelled to draw off his forces from Thanesar in order to protect his own capital, which was in some peril from the Jalsailur mutineers, but as soon as he learnt that they had passed by, his troops were sent back to Thanesar, much to the relief of Captain McNeile.

As was to be expected at such a time, the more turbulent spirits among the people took advantage of the temporary suspension of authority to give trouble both to Government and to their neighbours. Even in the Panipat Bangar sixteen of the largest Jat villages in the Naulakha nail refused to pay their revenue, drove out the Government village watchmen, joined in the disturbances in the Rohtak district, went to Dvhli, whence they returned after an absence of 22 days, and threatened to attack the Collector's camp; while nineteen other large villages, mostly in the Bhainsi and Korma nials, rioted, burned some Government buildings, committed various robberies and murders, and refused to pay revenue. The Gujars were, of course, not behindhand, and plan-

dom generally about the country. All these villages were fined and punished in various ways; and *Lambardars'* allowances to the amount of Rs. 7,317, representing a revenue of Rs. 1,46,340, were confiscated. In the city of Panipat open rebellion was preached, especially in the shrines of Bawali Kolander; and an attack upon the Collector's camp was only prevented by some British troops hurrying up and turning their guns on the town. Hostages were seized, some few men hanged, and the pension of the shrine reduced from Rs. 1,950 to Rs. 1,000 a year. The *tahsildar* of Gharautda, a Panjab man, had to be removed for disaffection.

If such was the behaviour of the Bangar, it may be imagined that the Nardak was not less troublesome. Some of the large villages caused much anxiety, notably Siven, Asandh, Jalmank, Qawdar, Salwan, Balla, Dabhart; they had no political cause to view, but the inhabitants being Muhammadan Rajputs and still unbroken from turbulent and predatory habits * broke loose in deeds of violence in general, and refused to pay the Government land revenue. Balla resisted a regiment of cavalry under Major Hughes, killing a native officer and some troopers, subsequently receiving severe punishment from the guns of the loyal Mānāl Chief, Almol Ali of Kānāl. Jalmank collected a large muster of Rajputs armed with the intention of releasing the prisoners of the Bhānsar jail, a purpose which they failed to effect. Asandh raised the Government police station in the fort at the village. That those villages, however, had no sympathies in common with the mutinous soldiers was evidenced from the fact of their robbing even to a state of nudity, fugitive soldiers on their way from the Panjab to join the rebel forces at Dehlī. Hābri, though a Rajput village, was distinguished for good conduct and loyalty under the guidance of intelligent headmen. It may be said generally that the further Nerdak showed extreme reluctance to give up the fugitive mutineers from Firozpur or Jalandhar, and positively refused to pay their revenue; and a detachment with some guns under Captain McNeile marched against them. They first attacked Balla, a large and always troublesome Jat village; and "signal chastisement was inflicted in a fight in which scarcely a villager in the higher Nerdak but had one or two killed or wounded." The Balla people presently redressed their fault to some extent by giving material assistance in coercing their neighbour Muṇḍ. The skirmish had a very good effect upon the countryside; and when Captain McNeile marched upon Jalmank, it submitted at once, while the Asandh people ran away into the jungles, and their village was bombarded and burnt. Heavy fines were levied from the recusant villages. The *Lambardars* of Gāthi Chājju paid their revenue into the *tahsil* without its being

Chapter II. B.

Political History.

The money.

* The old Sarak spirit is expressed in a rhyme, which concludes as follows:—

"Ex diu marilen, passiter his blakkes
Na hāvē, blakke, na hāvē blakke."

Which means—

"We will not die, and eat for blakkes;
All as blakke, and pay no rebusse."

Chapter II. D.**Political History.***The country**Development since
partition.*

demolished, and were rewarded by a personal grant which the survivor JI Bani still enjoys. Sardana, a dot of Pahri, aided—European fugitives from Delhi and received a revenue-free grant of land in perpetuity. And Kalender Ali Khan of Panjpal gave material assistance, and was rewarded by a pension. On the whole, the district suffered little. The Government treasury and moneys escaped unharmed, and but little of the land revenue remained uncollected. The total irrigation of the autumn harvest of 1857 was only 3 per cent. less than that of the same harvest in the previous year. In 1858 the numerous village forts which had been built in the time of the Sikhs were dismantled.

68. Some conception of the development of the district since it came into our hands may be gathered from Table No. II. It is probable that the figures are not always directly comparable, their basis not being the same in all cases from one period to another. But they may be accepted as showing in general terms the nature and extent of the advance made. And indeed the advance is not to be tested by figures only. The state of the country, when we occupied it has already been fully described in the preceding pages; and the contrast which that state presents with its present condition no less so.

SECTION C.—ADMINISTRATIVE.*Composition of the
district.*

69. The district consists of two portions, the administrative history of which was wholly distinct till the year 1862. The older portion includes the Panjab tahsil and the Kurnial pargana of the Kasaul tahsil; it came to us by conquest, and formed a portion of the Delhi territory, and of the Panjab district of the North-West Provinces. The other portion, consisting of the remainder of the district, came to us by lapse or forfeiture from the protec^ded Sikh chiefs who held it, and formed till 1862 part of the Thanesar district of the Sir-Sutlej division of the Punjab. The administrative history of the two is, therefore, entirely distinct, and must be treated separately for each. The land revenue administration of the district is not treated in this section as it is fully discussed in Chapter V, Section B.

*Administration
over the Delhi
territory.*

70. The provinces ceded by the Treaty of Sirji Anjanewal were known in the composite provinces, and with the other provinces formed a sub-division of the Bengal Presidency, in which the Bengal Regulations were exemplified by Regulation VIII of 1803. But Sec. 4 of that Regulation expressly excluded from the operation of the Regulation, past and future, the tract afterwards known as the Delhi territory, which roughly coincided with the present districts of Gurgaon, Delhi, Rohtak, and Hissar, and the Panjab tahsil and Kurnial pargana of this district; and, in fact, consisted of the territory transferred from the North-West Provinces to the Punjab in 1848. The Delhi territory thus constituted was at first placed under a Resident at Delhi, ruled by assistants who had no formally defined charge. But, as a fact Mr. William Fraser, one of the Assistants, exercised almost absolute authority in those parts, checked only by an unexercised right of appeal to

the Resident. A British Agent of the name of Rai Sada Suleh was appointed at Karnal. In 1819 the territory was divided into northern, southern, and central divisions, of which the northern consisted of Karnal, Panipat, Gurgaon, Rohtak, Supar, and Mandioli, and was placed in charge of a Principal Assistant. At the same time a Civil Commissioner was appointed at Delhi, who exercised civil, criminal, and revenue functions in substitution to the Resident. In 1820 the Civil Commissioner was abolished, and a Deputy Superintendent appointed in his place, who had full independent authority, but vicariously exercised the power of the Resident, as his Assistant, and in his courts. In 1822 the Bengal Presidency was divided, the ceded and conquered provinces forming the western province; and a Board of Commissioners of Revenue and Circles was appointed for these provinces, with its headquarters at Delhi. The Resident lost his Deputy Superintendent, but became the Chief Comptroller on the Board, and continued to exercise independent political functions as Agent to the Governor-General. In 1824 the division of the Delhi territory was split up into the districts of Panipat, Rohtak, Hissar, Rewari, and Delhi. The Panipat district included Karnal, Panipat, and Supar, and the remainder of the northern division west of Rohtak. In the same year the Delhi territory was removed from the control of the Board of Revenue collectively, and placed immediately under the Resident and Chief Comptroller, who, however, constituted himself of the revenue of the Delhi in the transaction of all revenue business. In 1829 Divisional Commissioners of Revenue and Circles were appointed throughout the Presidency, and the Delhi Comptroller transferred all business in subordination to the Resident.

In 1832 the office of Resident and Chief Commissioner was abolished, a Political Agent to the Governor-General taking his place; and Regulation V of 1832 gave to the Delhi territory to the jurisdiction of the Sale Board and Courts of Justice at Aligarh, directed that officials should conform to the spirit of the Regulation in the transaction of business, and empowered the Supreme Government to extend any part of the Regulations to that territory. It does not appear that any Regulations were ever so formally enacted; but from this date they were practically in force throughout the territory. From that date, too, the Principal Assistant changed his title to that of Magistrate and Collector. In 1833 the Agra Sub-division of the Presidency was erected into a Lieutenant-Governorship, under the name of the North-Western Provinces. In 1843 the Rohtak district was broken up, and portions added to Panipat; but the alteration was shortly afterwards corrected, and in 1857, just before the Mutiny, Sabzi Supar was transferred to Delhi. In 1865 the Delhi territory lying on the right bank of the Jumna was transferred from the North-Western Provinces to the Punjab by Government of India Order No. 9 of 9th February, and Act XXXVIII of 1858 repealed Regulation V of 1832, quoted above.

Chapter II. C. Administrative History.

Administrative
narrative. 1832
territory.

Chapter II. C.**Administrative History.**

*Administrative
Establishments.
Debt
Territory.*

71. As already noted, every *low village* that were held in separate *jagir* were often called a *pargana*, though the individual villages might be miles apart; and the same village was often quoted quite indifferently as being in one or other of two different *parganas*. In fact, there were two concurrent systems of *parganas*, one based upon locality, and the other upon the amount of the land revenue. In 1800 *pargana* Karsal included 218 villages, and extended to Tarnot. Of these, 14 belonged to the Sangat Sardar, 25 had long been held by Kunjpura, and 5 by Jindh. Of the remaining 174 villages 96 were given to the Kunjpura Naib for life, and 158 to the Mandals. Of these 165 villages many were mere hamlets, only 63 being separately assessed to Government revenue; and only 98 separate villages are now recognized. The remaining 9 villages, known as the nine naibas of Karsal, were wrongfully held by the Sikhs; they were resumed in 1816, and though lying to the north of Karsal, were included in the Panopat *pargana* till 1851. They are now in *pargana* Indri.

In the remainder of the present Karsal *pargana* and in the Panipat tahsil, the old division into *parganas* Panipat, Sunpat, and Gaurau was still followed in the *kazungs*' records. Some Jindh villages were added to Panipat in 1816, some Sunpat villages in 1822, and some Gaurau villages in 1838. The Bangre villages were generally known as *pargana* Panipat, and the Khadir villages indifferently as *pargana* Barsat or Channar up to 1830, from which date the two divisions were known as Panipat Bangar and Panipat Khadir. Besides these, we find in the earlier papers mention of *parganas* Jatras, Simbhalka, Faridpur, and Dalla, which were included in the above, and limits of which cannot be fixed. The boundary between the Khadir and Bangar *parganas* corresponded very nearly with that between the present assessment circles of the same names.

There was originally only one *tahsil* at Panipat; but in 1823, by which date the greater part of the *jagir* land had been resumed, a separate *tahsil* was formed at Barsat for the Khadir villages, the Mandal tract being excluded altogether. There was also a *tahsil* of Gaurau, and one of Sunpat. In 1829 the Khadir *tahsil* was transferred from Barsat to Panipat, the two being distinguished as Panipat Bangar and Khadir. In 1835-36 the boundary between Sunpat and Panipat took its present shape, when Siwanay was absorbed into Sunpat Khadir. In 1851, after the Settlement of the Mandal villages, the territory was divided, as at present, into Karsal and Panipat, with *tahsils* at Panipat and Ghazanwali; and Amritpur and Kairwali, now in *pargana* Indri, were received from the Thanesar district in exchange for the nine naibas of Karsal which had been transferred to it. In 1854 the headquarters of the *diwani* were moved to Karsal; in 1862 *tahsil* Kairwali and *pargana* Indri were added to the district; and in 1868 the *tahsil* was moved from Ghazanwali to Karsal.

Thanesar district.

72. The history of the rest of the district, which was in 1800, when we took the Cis-Sutlej chiefs under our protection, parcelled out among various Sikh chieftains and confederacies, has been given

in Chapter II, B. Kaithal joined in 1843, Thanesar in 1832 and 1850, and Ambala was confirmed in 1846. In 1849 these were formed into a district of the Gurdaspur States division of the Panjab, having its head-quarters at Thanesar. In 1862, after the transfer of the Delhi territory to the Panjab, the Thanesar district was broken up and distributed between the districts of Karnal and Ambala. The parganas of Gule, Pohowra, Kaithal, Indri, and part of Thanesar, fell to this district, the remainder to Ambala; at the same time the Sumpat pargana was transferred to Delhi. Six villages were transferred from Muzaffarnagar District to Karnal in 1862 owing to river-changes.¹ In 1868 Juhai Gule was abolished and pargana Pohowra was transferred to the Ambala district; while Chikka and Kularan were included in the Kaithal tahsil. In 1875 there were further included in the Kaithal tahsil 14 villages from the Pohowra pargana. Most of the other Pohowra villages have recently been transferred from Ambala to Karnal, while Budlada has been made over to Hisar.²

73. Below is a list of the officers who have held immediate charge of this district, omitting temporary appointments:—

District officers.

Paniput or Karnal District.

—	William Fraser	1824	H. H. Thomas
1819	T. T. McAlsto	1825	Hugh Fraser
1822	Hugh Fraser	1830	Alexander Fraser
1824	George Campbell	1832	Simon Fraser
1834	John Lawrence	1841	Major W. R. Elliot
1838	Alexander Fraser	1843	Major Busk
1840	John Paton Gubbins	1863	Captain Parsons
1841	T. Woodcock	1870	R. W. Thomas
1842	John Lawrence	1873	Captain Harcourt
1843	John Paton Gubbins	1874	Colonel Bolshage
1845	Charles Gubbins	1875	Colonel Hayes
1848	Nathaniel Prowett	1876	Colonel Millar
1851	C. R. Lindsey	1878	A. H. Denton
1853	J. P. Macwhinter	1882	Major A. S. Roberts
1857	C. B. Richardson	1883	A. W. Stogdon
1858	R. P. Jenkins	1884	Major A. S. Roberts
1859	O. P. Elliot	1886	J. R. Drummond

Thanesar District.

1843	Major Lawrence, C. B.	1856-57 to 1858-59
1843	Major Lush, C. B.	1858 Lt. Andrew Beck
1846	Major S. A. Abbott	1859 to 1860 Lt. N. W.
1846	G. Campbell	Alphinstone
1846	Major S. A. Abbott	1860-61 Captain Andrew
1847-48 to 1848-50	G. Campbell	Beck
1850-51 to 1852-53	Captain W. H. Larkins	1861-62 Major E. F.
		Graham and Lt. Vaise.

Many of these names are household words with the villagers, and are quoted daily in the course of business. The following is a glossary which will be found useful:—Fraser is Fraser; Bura

(1) Two more have since been transferred.

(2) P. G. Notifications Nos. 717 and 718 of 12th December 1888.

Chapter II. C.**Administrative History.****Miscellaneous.**

Fridan Sahib is William Fraser. *Hu Sahib* is Hugh Fraser. *Alah Jalandar Sahib* is Alexander Fraser, but is better known for Alexander Skinner. *Jas Paton Sahib* is John Paton Gubbins. *Challa Sahib* is Charles Gubbins. *Jessa Sahib* is George Ross, who settled the Maunder pargana in 1852-3. Captain Larkins is the best remembered of the Thunderside Deputy Commissioners.

Early administration.

74. The early administration of the Delhi territory before the introduction of the regulation law presents so many curious points of contrast with that of our own day, that it will be interesting to give a brief sketch of its most salient features, more especially as in this district also has the motley left untouched the records which described it. The early administration of land revenue is fully discussed in Chapter V. The cantonment of Rawal, which was not moved to Ambala till 1812-13, was for a long time, with the exception of a small military outpost at Ludhiana, our frontier station. Its size may be judged of from the fact that the monthly pay of the troops amounted, in 1835, to a lakh-and-a-quarter of rupees. This pay was by no means always forthcoming; the Collector often had to borrow at exorbitant rates from the local money-lenders in order to meet urgent demands for arrears of several months' standing; and as late as 1849 we find the bills discounted for want of funds, and troops actually marching on service with some months' pay owing to them.

Criminal administration.

75. The tract was surrounded for the greater part of its border by "the turbulent and marauding Sikhs" of Jind, Kapurthala, Ludhiana, and Shamgarh; their territories reaching to within a mile of the cantonment boundaries. Raids and affray and wholesale raids, in which cattle were carried off by fifties and hundreds at once, were of constant occurrence. The Sikh chiefs exercising sovereign powers had exclusive jurisdiction over their own subjects even for offences committed in British territory; until in 1833 that state of things grew so intolerable that we assumed criminal and police jurisdiction in Ludhiana and Shamgarh. The Japirials, whose villages were thickly sprinkled over the tract, gave almost as much trouble as our Sikh neighbours, resorting by force of arms the execution of writs, and harassing the authorities in every possible way. The Maunder were more than once threatened with expulsion from Rawal if they did not become more amenable to authority; and their pargha was actually attached in 1830 on account of their combinations against us. The whole of the Nangar, and, till the re-opening of the canal extensive cultivation, the whole of the Nangar right up to the main road from Delhi, was covered with thick *shuk* *fungal* which harboured bands of robbers; and criminals always found a ready refuge with our Sikh friends, from under whose wings they had to be reclaimed through the Resident at Delhi and the Superintendent

of Sikh affairs at Ludhiana, till the appointment of rebels in 1824 simplified the procedure. The Rogatis of the Nardak were notorious for their turbulence. Several were tried at Delhi; and the bodies of criminals executed were left hanging on the gibbets till 1838, when the practice was discontinued. Flogging was abolished in 1826. The track here was rigorously enforced, the village to which the thieves were traced, or even that in which the robbery took place if convenience was suspected, being made responsible for the full value of the stolen property; and though this practice was discontinued on the introduction of the Regulations in 1829, yet the Court of Directors expressly ordered its revival on the ground of the number of predatory chiefs whose territories bordered on the tract. The police establishment was uniformly corrupt. In 1820 there were only 2,082 prisoners tried in the whole Delhi territory, of which number 2,002 were acquitted or discharged. During the five years from 1824 to 1829 the average number of cases brought into court, excluding assault, was only 623 for the whole Panipat district. In 1879 the corresponding number for a very little larger population was 1,350. The police duties in large towns were discharged by workmen, while in villages the people themselves were responsible for them, and for the *zajir*-holdings, the police were furnished by the *zajirdars* themselves. There were no head-quarters to the district till 1827, and the Magistrate was always moving about and carrying his jail with him, the prisoners sleeping in the open under nothing but a guard. The roads were said to be impassable for man or horse in the rains generally, and near the canal or river at all seasons; while at the best of times reports took four days to traverse the greatest length of the district. There was no road-cess, and such repairs as were made were done by prisoners. The road-cess was not imposed till 1842, and the Grand Trunk Road was not made till 1847.

70. Civil suits were tried solely by the Sair Amin at Panipat, who, after eight years of service, was discovered to refuse on principle to admit the evidence of a Hindu against a Muhammadan, though he admitted that of the latter against the former, and who justified his practice by reference to the Muhammadan law, by which he considered himself bound. The language of the courts was Persian up till 1806, so suits against Government were admitted in the courts of the Delhi territory, and no stamp was taken on petitions till, in 1839, Regulation X of 1829 was extended to the courts by proclamation. Sale of land was not permitted without the consent of the whole village, save with the express sanction of the Governor-General in Council.

Government coins were not current in the district, the copper coins being "received with reluctance"; while the reason given for moving the *zajirs* from Barnal to Panipat in 1828 was, that the larger towns afforded greater facilities to the people for exchanging the current coins in which they were paid for their crops for the

Chapter II. C. Administrative History.

Criminal Administra- tion.

Civil administra- tion.

Chapter II. C.**Administrative History.****Civil administration.**

Government rupees in which alone the revenues could be paid. In 1833 the Government, "in order to afford revenue-payers relief from the arbitrary exactions to which they were subject at the hands of money-lenders in paying revenue," fixed rates of discount at which the collectors of country rupees then current would be received in payment of revenue, in the conviction that "the measure would greatly benefit the agricultural classes." Education had "steadily deteriorated since the introduction of our rule;" and in 1820, of the 12 schools, minimally existing in the whole tract, those of Karnal, Gidarsamla, Bhawanshi, and Nautha were the only ones attended by more than two or three children. These were all supported by private enterprise, and were all bad alike. There were no dispensaries in the district till 1848, when it was proposed to establish them on account of the terrible epidemics.

Customs and Excise.

77. Every petty chief in the neighbourhood levied innumerable transit dues on the traffic through his territory. This pernicious system was adopted by us also, even to the extent of allowing every little *jagirdar* to levy these dues in his own villages. The customs line, established under the regulation on the left bank of the Jamuna, lay wholly to the east of the territory; and the result was that "a vast multitude of custom-house officers were scattered broadcast over the country, making collections in every town, and apparently in every considerable village, on almost every article of traffic." Payment of these dues did not exempt the goods from duty at the regular customs line; so that goods passing across the Jamuna into the regulation provinces had to pay double duty. In 1823 the whole customs machinery west of the Jamuna was abolished, and posts were retained only at the ferries, which were about three miles apart. At the same time the dues were consolidated to those leviable under Regulation IX of 1810, and one payment freed goods for all British territory. But this change involved the relinquishment of the customs revenue upon the whole of the trade between the Rappatana and the Sikh territory—a revenue which averaged *sixty lakh* annually. Accordingly, in 1825, a second customs line was established on the Western Jamuna Canal. But the posts on both lines were in charge of *subadaris* at Rs. 7 a month; and the amount of embezzlement was inconceivably great. Smuggling, too, was practised to such an extent that in 1833 it was estimated that not one-sixth of the salt passing through the district had paid duty. In 1834 the "irritating and exasperating interference with trade" practised by the customs officials was seriously commented upon, and all petty traffic was wholly exempted. And when the neighbouring Sikh territory became ours in 1843, the customs line was finally removed from the vicinity of Karnal. Such chiefs, however, as remained independent, continued to levy their own dues until we deprived them of their powers after the Sikh war, when the Nawab of Ranjpara was compensated for the loss of his customs revenue by a yearly payment from the Treasury.

Besides Imperial customs, octroi was levied in Karnal and Panipat at *ad valorem* rates varying from 5 to 10 per cent. upon all grains, pulses, sugar, oil, oil-seeds, ghee, tobacco, firewood, char-coal, salt, and spices within three miles of the town; and these dues formed a part of the Imperial revenue till 1823, when grain of all sorts was exempted, and the revenue was devoted to local improvements under the management of a municipal committee. The annual net revenue thus realised in Panipat averaged about Rs. 3,000. The present octroi revenue of that town is about Rs. 20,000. A further tax of 5 per cent. on the value of all houses or land held or mortgaged within the walls of Panipat and Karnal was levied till 1823, when this and a host of other arbitrary exactions, of which no detail is forthcoming, were finally abolished.

Chapter II. C. Administrative History.

Continues and Extends.

CHAPTER III.

THE PEOPLE.

SECTION A—STATISTICAL.¹

Chapter III. A.

Statistical.

Description of popu-
lation.

78. Table No. V gives separate statistics for each taluk and for the whole district, of the distribution of population over towns and villages, over men, and among houses and families, while the number of houses in each town is shown in Table No. XI.III. The statistics for the district, as a whole, give the following figures, and further information will be found in Chapter II of the Census Report of 1881—

Percentage of total population who live in	{ Towns Males Females	Total population	25.42
villages			74.58
Average rural population per village			6.72
Average total population per village and house			721
Number of villages per 10 square miles			34
Average distance from village to town, in miles			7.7
of—			
Total area		Total population	2,000
Cultivated area		Rural population	2,000
Cultivated & uncultivated		Total population	2,000
Uncultivated area		Rural population	1,112
Total area		Total population	2,000
Number of resident families per occupied house	{ Towns Villages		1.63
Number of persons per occupied house	{ Towns Villages		3.41
Number of persons per resident family...	{ Towns Villages		2.43
	Towns		2.43

Density of popula-
tion.

79. The following statement shows the density of population on total and cultivated areas—²

I	2	3	4	5	6
Taluk	Total area In square miles	Total population	Number of houses in the square miles	Cultivated area in square miles	Number of persons in the square miles of cultivation
Kurnial	462	251,001	276	822	308
Panipat	472	165,783	104	849	196
Kallital (excluding)...	1,226	227,302	176	660	340
Total	2,570	643,086	650	2,331	270

(1) The figures in Chapter III, except where otherwise is noted, relate to the district as constituted in 1881, when the first edition of the Gazetteer was published. The insertion of "excluded" in brackets after Kallital indicates that the figures given for that taluk relate to the area as constituted at the time of the last census, the areas being taken from the returns of the census of 1881. The Bawali villages transferred in 1882 from Kallital to the Bawali District had in 1881 a population of 11,210 souls. The Polowal villages transferred from the Amritsar District to Kallital in 1879 had in 1881 a population of 36,510 souls.

(2) In column 5 the cultivated area referred to is taken from Chapter III appended to the Census Report of 1881-82 in the case of Panipat and Kurnial, and from the Settlement returns in the case of Kallital.

The density of population is 250 per square mile on the total area, and 257 on the cultivated area for the whole district. The density is greatest in Panipat, i.e., 308 and 310, as we might expect, seeing that half of the total is Khurri, where scarcely any land is uncultivated, and that the rest of the total is irrigated by canals and abundantly supplied with wells. The rain-fall is also little short of that for Karnal. The Karnal taluk comes next with 278 and 282. The Khurri of Karnal is similar to that of Panipat; the rain-fall is slightly larger, a much smaller area is under canal irrigation, but the chief cause of the difference, as compared with Panipat, is that of the tract called the Nardak, which includes nearly half of the taluk, 3 is waste land, and the remainder is badly provided with wells and badly cultivated by the population, almost Rajputs. There is also a considerable population of Sindhi and Gujer who are bad cultivators. Elsewhere throughout the district the indications Jat, Rora, Rajur, and the like are well mixed up with the better indications Rajput, Gujer, Krishnay, &c. Karnal comes last with the 170 and 199 for the total and cultivated areas respectively. The rain-fall is only 18 inches; there is only canal irrigation in 13 villages, well irrigation is impossible throughout one-half of the taluk, and the dry crops are very prevalent.

80. In the district report on the census of 1861, the Deputy Commissioner writes:—

"I believe the general custom both among Hindus and Mohammedans is for several families, the heads of which are brothers, to live together so long as their father is alive, and to separate at his death. Of course, the rule is subject to very many exceptions, but the cases of such families being united are much more numerous than those of separation. The separation is of course effected in the most convenient way. The building occupied by the household will be divided, if that be easily possible, or an addition or addition may be made in the same enclosure, or may have been made from time to time during the father's life-time, it may with these families separated before their father's death. Thus we may come to find 2 or 3 brothers with their families living in separate buildings in the same enclosure. Some of these may however remain in course of time owing to the continual changes of life, and relatives may be allowed to occupy them, or they may be let to persons of an entirely different caste. The practice has thus grown up of different families, having little or nothing in common, living together in houses arranged generally in quadrangular form round a common court. It has the advantage of providing in a very economical way some free space off the street which can be used by a number of families without much inconvenience, and the members of the different families are in a position to render each other protection. It is also quite common, at any rate in the towns, for a man who has some house to let to let it to a stranger, merely with a view to letting them."

81. Table No. VI shows the principal districts and States with which the district has exchanged population, the number of places of permanent migration in each direction, and the distribution of immigrants by

Chapter III. A.
Statistical.

Migration and birth-place of population.

Tables. Further details will be found in Table No. XI and in supplementary Tables C. to H. of the Census Report for 1881; while the whole subject is discussed at length in Part II of Chapter III of the same report. The total gain and loss to the district by migration is shown in the margin. The total number of residents born out of the district is 98,186, of whom 44,439 are males and 53,647 females. The number of people born in the district and living in other parts of the Punjab is 87,243, of whom 53,273 are males and 33,970 females. The figures below show the general distribution of the population by birth-place:—

Proportion per mil. of total population.		
	Male	Female
Females	51	51
Males	49	49
Total	50	50
	150	149
	129	128
	129	128

The number of people born in the district and living in other parts of the Punjab is 87,243, of whom 53,273 are males and 33,970 females. The figures below show the general distribution of the population by birth-place:—

District	PROPORTION PER MILLE OF RESIDENT POPULATION.								
	Rural population			Urban population			Total population.		
	Male	Female	Percent.	Male	Female	Percent.	Male	Female	Percent.
The district	507	579	540	593	772	502	593	779	512
The province	271	349	281	310	301	206	304	310	281
India	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The following remarks on the migration to and from Kāshāl are taken from the Census Report:—

"Here again the migration is largely reciprocal, while the migration caused by the riverain and canal tract has caused the immigration long-ly to exceed the emigration, both being almost wholly confined to towns which march with the district, and immigration being most in excess from those districts which have the smallest common frontier. The percentage of males is always larger among emigrants than among immigrants, which seems to point to the immigration being more largely of the permanent type than is the emigration. The extensive emigration into Rājputānā and the Native States is largely due to the havoc caused by saline effluvia in parts of the canal tract."

Increase and decrease of population.

82. The figures in the statement below show the population of the district as it stood at the three enumerations of 1853, 1861 and 1881. The first of these was taken in 1853 for so much of the district as then formed a portion of the North-Western Provinces (see Chapter II, Section C), and in 1853 for the remainder of the district, which was under the Panjab Government:—

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 Statistical.
 Increase and decrease of population.

	Census	Persons	Males	Females	Density per square mile.
Actual.	1853	...	...	...	221
	1868	617,377*	324,622	292,342	290
	1881	622,621	326,171	296,450	300
Percentages	1853 on 1853	...	...	...	113
	1881 on 1868	100%	100%	101-12	100

Unfortunately the boundaries of the district have changed so much since the Census of 1853 that it is impossible to compare the figures; but the density of population as then ascertained probably did not differ much over the two areas. It will be seen that the annual increase of population per 10,000 since 1868 has been 3 for males, 9 for females and 6 for persons, at which rate the male population would be doubled in 1,293-6 years, the females in 800-4 years, and the total population in 1,212-9 years. Applying the same rate of increase to hold good for the next ten years, the population for each year would be in hundreds—

Year.	Persons	Males	Females	Year.	Persons	Males	Females
1881	622,6	326,2	296,4	1891	624,8	328,9	295,9
1892	623,0	326,3	296,7	1892	624,1	327,0	297,2
1893	623,2	326,4	297,1	1893	625,3	327,1	298,5
1894	623,7	326,2	297,2	1894	625,8	327,2	298,6
1895	624,1	326,0	297,0	1895	626,3	327,0	299,0
1896	624,6	326,7	297,8				

Nor is it impossible that the rate of increase will be sustained or even become greater in the future. Part, indeed, of the increase is probably due to increased accuracy of enumeration at each successive enumeration, a good test of which is afforded by the percentage of males to persons, which was 55-90 in 1853, 54-15 in 1868, and 53-90 in 1881. Part again is due to gain by migration, already shown at page 57. The excavation of the Sîma Canal will render a considerable expansion of population possible in the S. of Kaithal.

The urban population since 1868 has not increased like the rural population, the numbers living in 1881 for every 100 living in 1868 being 92 for urban and 101 for total population. This is probably due to the abolition of the abul at Karnal and to the un-

* According to present calculations of the district the figures in column 2 should be for 1868 611,000, and for 1881 617,379, the densities per square mile in both years being 290.

Chapter III. A
Statistical.
 Increase and decrease of population.

inhabitants of the towns of Panipat and Karsal. The populations of individual towns at the respective enumerations are shown under their several headings in Chapter V.

The fluctuations of population by districts is shown below:—

District	Total			Percentage of increase over that of 1861
		1861	1881	
Karsal	... ...	210,222	223,061	90
Panipat	... ...	181,700	186,789	103
Kasal (separate)	210,211	237,332	104	
Total	... ...	541,933	646,182	119

The growth of population between 1861 and 1881 was therefore quite insignificant.

Further details can be given regarding the part of the district, 4th of the whole as far as area is concerned, which down to 1861 formed part of the Thanesar district. The figures given below are taken from returns prepared at the recent settlement:—

District	Assessment Circles	Districts						
		1861		1881		1881		
		Number	Per cent. of population	Number	Per cent. of population of 1871 in 1881	Number	Per cent. of population of 1861 in 1881	
Kasal	Kasal	40,928	297	54,208	107	51,612	104	103
Kasal	Dangar	28,450	423	34,417	97	34,821	95	94
Kasal	Nardak	21,422	611	27,316	117	23,602	130	114
	Total	88,790	574	115,931	107	110,035	102	104

Chapter III, A.

Statistical.

Incomes and decrease of population.

Tract	Assessment circles	Census						Per square mile of cultivated area	
		1855		1868		1881			
		Number	Per cent. of population	Number	Per cent. of population of 1855	Number	Per cent. of population of 1855		
Kaithal	Grewal	11,664	400	16,812	110	15,421	110	400	
Kaithal	Amritsar	10,932	770	11,700	102	11,201	104	797	
Kotputli	Nalli (including 5 villages of Barot and Chandi in Khanna)	26,522	620	30,444	100	28,182	98	615	
	Sandhuwa (including Kallia, Sandhu and Bhawana and Bhawana Ranges)	30,172	517	32,947	107	31,019	103	514	
	Total	101,374	584	120,164	112	117,322	112	807	

The increase of population between 1855 and 1881 in Bushi shown on page 70 is not real. The figures of the first census do not include the population of 7 estates received by transfer from Musafarnagar and of 6 villages which formerly belonged to the Patiala tract. Allowing for this the number declined by 12 per cent. between 1855 and 1881. The population of Bushi is as large as the parganah with its present resources can well support. The tract is on the whole an unprosperous one and in years of heavy rainfall the mortality from fever is very great. In Kaithal the Porewali and Andrews circles are healthy, but they are fully cultivated and fully populated, and little further expansion is to be expected or desired. In the unhealthy Nalli population has declined. In the healthy southern uplands, where there was abundant room in 1855 for extension of cultivation, population has increased with great rapidity, but the growth of the cultivated area has been far more rapid. Excluding this tract the population of the whole district shows a falling off of nearly 2 per cent. between 1855 and 1881.

Immediately after the Census of 1881 had been taken, the district was visited by a severe famine.* It was reported at

* See page 33.

Chapter III. A. the time that no deaths had occurred from starvation; but the decrease in the number of cattle, the necessary impoverishment of the people, and the injury to health from deficient food, no doubt had an important effect both in sterilizing the population and in keeping down the cultivated area.

Statistical.

**Incomes and
crease of population.**

A similar calamity, somewhat less severe, occurred in 1877-78.* In 411 out of 927 villages in which revenue had to be suspended, inquiries showed that 52,250 head of cattle, many of them plough bullocks, perished, and the loss was only somewhat less severe elsewhere. There was no mortality from starvation, and the mortality generally was, probably, less than usual in those years of drought and scarcity; but owing to the poor diet and hardship suffered, the people fell a prey in large numbers to a fever epidemic in the end of 1879. It cannot be doubted that all this must have had an important effect in keeping down the population and the cultivated area.

Owing to the faulty alignment of the old Western Jammu Canal and the wasteful system of irrigation pursued by the people large tracts became waterlogged. The insanitary conditions thus produced led to widespread disease and sterility in the canal tracts of Panipat and Karnal, and the floods of the Sarju, Ghaggar, and Umla have caused the same evils in the Kaithal Naili. But Karnal and Panipat are already fully populated, and the result of the improvements in drainage now being carried out by the Canal Department will probably be more apparent in an improvement in the physique of the people than in an increase in their numbers.

Births and deaths.

83. Table No. XI shows the total number of births and deaths registered in the district for the twelve years from 1877 to 1888, and the births for the nine years, 1880 to 1888. The distribution of the total deaths and of the deaths from fever for these twelve years over the twelve months of the year is shown in Tables Nos. XIA and XIB. The annual birth-rates per mille, calculated on the population of 1881, are as shown in the margin.

The figures below show the annual death-rates per mille between 1868 and 1875 calculated on the population of 1868:—

Detail.	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	Average.
Males	14	23	21	22	23	19	21	22	22	22	44	21
Females	11	20	22	19	21	17	19	20	20	20	42	21
Persons	13	22	21	21	22	18	20	21	21	21	43	22.5

The table below gives the corresponding figures for the ten years ending with 1888 calculated on the population of 1881.

* See para 83.

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Increase and decrease of population.

Detail.	1870	1871	1872	1873	1874	1875	1876	1877	1878	Average
Males	39	39	38	32	30	34	29	31	31	31
Females	37	38	31	31	22	28	30	31	32	30
Persons	76	77	69	62	59	64	59	61	63	69.5

The figures for the period 1869-1878 are no doubt very imperfect. Comparing the statistics of birth between 1880 and 1888 with those for deaths between 1879 and 1888 we find that the average death rate is almost exactly the same as average birth-rate. This is due to the large number of deaths from fever which occur year by year. The only other districts in the province which suffer severely from this cause are Delhi and Gurgaon. Violent outbreaks of fever due to excessive autumnal rains in 1879, 1881, and 1887, account for the extraordinary mortality of these years. The only remedy is drainage of the waterlogged tracts. This is now being carried out as regards the part of the district watered by the Western Jumna Canal, but as yet nothing has been done for the tract flooded by the Umla, Ghaggar, and Sarsuti, where disease is equally rife.

The registration is still imperfect, though it is probably improving. The historical retrospect which forms the first part of Chapter III of the Census Report of 1881, and especially the annual schedule from 1880 to 1881, which will be found at page 60 of that report, throw some light on the fluctuations. Such further details as to birth and death-rates in individual towns as are available will be found in Table No. XLIV, and under the headings of the several towns in Chapter VI.

81. The figures for age, sex, and civil condition are given in great detail in Tables Nos. IV to VII of the Census Report of 1881, while the numbers of the sexes for each religion will be found in Table No. VIII appended to the present work. The age-statistics must be taken subject to limitations, which will be found fully discussed in Chapter III of the Census Report. Their value rapidly diminishes as the numbers dealt with become smaller; and it is unnecessary here to give actual figures, or any statistics for tables. The following figures show the distribution by age of every 10,000 of the population according to the Census figures —

Age, sex, and civil condition.

	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Persons	221	120	150	220	241	114	120	118	206	206
Males	107	142	142	213	222	106	107	109	169	169
Females	114	180	147	140	278	117	117	107	137	137
	23-24	25-26	27-28	29-30	31-32	33-34	35-36	37-38	39-40	41-42
Persons	992	932	87	480	707	247	272	149	406	406
Males	517	501	813	171	591	211	202	125	246	246
Females	475	431	864	309	216	222	271	124	160	160

Chapter III. A. The number of males among every 10,000 of both sexes is shown below. The decrease at each successive enumeration is almost certainly due to greater accuracy of enumeration :—

Statistical
Age-period
and Civil
Condition.

	Population.	Villages.	Towns	Total.
All religions	1866	...	...	3,200
	1888	...	...	3,115
Hindus	1881	5,441	5,197	5,293
Sikhs	1881	5,161	5,191	5,137
Jains	1881	5,122	4,931	5,047
Muslims	1881	5,000	5,007	5,241

Year of life.	All religions	Hindus	Muslims
0-1	918
1-2	...	920	1,010
2-3	...	918	950
3-4	...	917	...
4-5	...	907	...

In the Census of 1881, the number of females per 1,000 males in the earlier years of life was found to be as shown in the margin.

The figures for civil condition are given in Table No. X, which shows the actual number of single, married, and widowed for each sex in each religion, and also the distribution by civil condition of the total number of each sex in each age-period.

Properties between
the sexes.

86. The Deputy Commissioner (Mr. Bentin) wrote as follows in his Census Report for the district :—

"Both Hindus and Muhammadans show a more even proportion of males to females everywhere in the towns than in the villages, and the Muhammadans everywhere both in towns and in villages show a larger female population than the Hindus. The Sikhs are in considerable numbers in the villages of Kartal and Kauthal, and there the proportion between the sexes above is markedly different from those of the Hindus. Statements so general in their character with regard to the proportions of the Hindu and Muhammadan religions and Sikh religion, whatever they are in sufficient numbers to justify remarks, cannot be the result of accident, and neither can it be accidental that the proportions for the last Census should so nearly correspond to those of this."

"In addition to the authorities cited on the disproportion of the sexes by Mr. Plowden in the North-Western Provinces Census Report, the only authority with which I am acquainted is 'Darwin on the Descent of Man,' pages 242 to 260, Ed. 1874.

"With regard to disparity between the ages of the males and the females, if it be an effective cause, it no doubt exists. By working out the average ages of males and females, by taking the ages of all included within any period in the returns as if the middle of the period were their proper age, and with regard to those over 60, taking them all as 65 years of age, I find the average age for married males 33.42, and that for females 29.90.

For Hindus these averages are 30·54 and 28·57, while for Mohammedans they are 35·6 and 29·51, the difference being 5·31 in favour of 4·97 for Hindus. This is an altogether unexpected result, it being generally supposed that co-habitation is postponed for 4 or 5 years longer in the case of Mohammedans, the ages of the husband and wife were more nearly equal than in the case of Hindus. Seeing a state of equality between the sexes more nearly obtaining among the Mohammedans than among the Hindus, this would appear to indicate that disparity of ages be an effective cause there must be some other force in operation which depresses the Hindu proportion of females to males in towns and villages, and yet allows the Mohammedans with greater disparity of ages to have a much more equal proportion everywhere. Infanticide or ill-treatment of females practised at the present time, with a hereditary tendency developed by their practice in bygone times, would serve to explain the results. Mohammedans, having all of them a good deal of Hindu blood in their veins, if not wholly Hindus, would not escape the joint of these vices or of their accumulated effects if they be not now proscribed; but the results would be very much diminished, and great disparity between different castes, which intermarry only amongst themselves and preserve their own habits and usages, would be matter of no astonishment."

80. "With regard to a hereditary tendency to produce males, I consider that the conditions necessary to establish it are still in existence to some extent. There is no doubt that infanticide, if not general, still exists. We have a police post established at Kurrak* for its prevention, and there are good reasons for suspecting three more villages to be guilty of the practice. The persistent differences between towns and villages, although the towns are to a large extent inhabited by an agricultural population in no respect different from that of the villages, the more favourable proportion for Mohammedans, generally, even with disparity of years against them, especially when compared with those of the same caste who are still Hindus, lead to the conclusion that infanticide still prevails among the agricultural population to a much larger extent than could have been imagined. There are strong motives for getting rid of a super-abundant family of daughters. Although in most castes a price can be set for a bride, still, where the price is highest, the upbringing of daughters will be a considerable loss, looking at the matter as one of pure profit and loss; and to men of respectability, who wish to marry their daughters in accordance with the prevailing custom, a large family of daughters is universally declared to be a ruinous misfortune.

87. "It is admitted on all hands that there is a difference between the treatment of male and female children, but it is not admitted that this difference is of a character to cause the destruction of the latter. The total effect, however, of a practice feeling more favourable to males than females may not be incapa-

Chapter III. A.
Statistical.
Proportion between
the sexes.

Infanticide.

Treatment of female
children.

* Masters have probably imported at Kurrak, which is a large Gajra village. A census of male and female children, recently taken unexectedly by the Deputy Commissioner, did not disclose any conspicuous disparity in the proportions of the sexes. The late Deputy Commissioner, Mr. Brewster, suspected that infanticide was prevalent in the Rajput tribes of Churu, and I have heard it asserted that it exists in the great fort-village of Chura.—J.H.D.

**Chapter III. A.
Statistical.**

**Polyandry and
polygamy.**

siderable even if it does not go the length of crudity. It is however, sufficient for the purpose of establishing a hereditary male-producing tendency if female infanticide prevails in lesser degree, and of this I suppose there is no doubt whatever.

88. "We know at once that there is no polyandry * here, and that polygamy does prevail to a very slight extent. This is not the conclusion, however, that we should arrive at from the returns. From them we learn that there are in the district 2,673 more married males than married females, although we should have had a slight excess of females to be accounted for by polygamy. I am somewhat at a loss for an explanation of this result. I believe it may be due to the fact that we had a native regiment passing through, which contained 659 males, many of whom may have been married; and that there may be a good many Government servants, Police and others residing in the district who have their wives elsewhere. The people of the districts of Sialkot and Attock have a gay-at-home character, and do not like going on service elsewhere. I was impressed by this feature while trying to get men for service with the troops during the war in Afghanistan. Consequently the deficiency of married females, due to residents of other districts being temporarily settled here, would not be compensated by natives of this district temporarily residing elsewhere, and leaving their wives behind them. I observe that there is a larger percentage of married females in the towns of Panipat and Kaithal than anywhere else. A good many people in both these towns are married and employed at service elsewhere. They may have left their wives behind them; this is the probable explanation.

Widows and widowers.

ura.

89. "The percentage of widows to the whole of the females is in each case considerably larger in the towns than in the villages, and the number of widows varies from about a half to something short of a third of the number of widows in different places. These differences are to be explained by the restrictions on widow marriage. Banias, Brahmins, and other high castes who forbid widow marriage prevail in the towns and keep up the percentage of widows. The Rajputs also forbid widow marriage and they keep up the percentage wherever they prevail. There are very few in the villages of Panipat town, and there the number of widows is smallest, viz., 15.51 per cent.; Kaithal, where they are not very numerous, follows with 15.71; and Kurnool village, where they are very numerous, is highest with 17.99. The percentages in Panipat, Kaithal, and Kurnool towns are 15.38, 15.74 and 22.73 respectively. The small percentage of widows in Panipat villages partly accounts for a larger percentage of married males and females than anywhere else.

Summary.

90. "To sum up, the Sikhs marry earlier than the members of any other religion. The Hindus come after them in this respect, then the Mohammedans, and the Sikhs marry latest of all. Notwithstanding we find that the average disparity of ages between husband and wife, which is about 4½ years for Hindus, is nearly a year more for Mohammedans. Although polygamy exists to a small extent, there is found to be no ex-

* Possibly no exception can be made in the case of some of the outlying Pothohar villages near the Ludhiana district.—J.M.D.

of married men over married women, which is attributable to the migratory character of the population, which prevents married males going on service elsewhere leaving their wives behind; while males from other districts come here without their wives. Disproportion was observed in different localities as to the percentage of widows and widowers, which depend on the exodus of the population in those places as to the marriage of widows. The usual disproportion between the sexes is observed. The males are in the proportion of 45·99 to 40·01 females. The disproportion is larger in the towns than in the villages, and larger among the Muhammadans as a whole than among the Hindus. The Hindu agricultural population shows most unfavourably. With a few trivial exceptions, the high caste Muhammadans show best, and the Brahmin caste is on an equality with them. The disproportion may be due partly to climate and partly to disparity of ages between the sexes, but these cannot be the only causes, as the disparity is less in the case of Muhammadans who show a larger proportion of males, and these causes do not account for the differences shown by different castes. It is necessary to postulate some other cause. An inherent tendency to produce males caused by female infanticide practised in the past, if not also in the present, and by female ill-treatment still prevailing, would sufficiently account for all the phenomena."

Chapter III. A.

Statistical.
Summary.

Infirmities	Males	Females
Insane	3	2
Blind	67	71
Deaf-mutes	2	2
Lepers	6	..

91. Table No. XII shows the number of insane, blind, deaf-mutes, and lepers in the district in each religion. The proportions per 10,000 of either sex for each of these infirmities are shown in the margin. Tables Nos. XIV to XVII of the Census Report for 1881 give further details of the age and religion of the infirm.

Infirmities.

92. The figures given below show the composition of the Christian population, and the respective numbers who returned their birth place and their language as European. They are taken from tables Nos. IIIA, IX and XI of the Census Report for 1881—

European and Euro-
Asian population.

Details.		Males.	Females.	Persons.
Total Christian population	Europeans and Americans ..	20	15	35
	Christians ..	..	1	1
	Native Christians ..	24	24	48
	Total Christians ...	44	41	85
European language	English ..	21	17	38
	Other European languages ..	..	..	—
	Total European languages ..	21	17	38
Non-Euro- pean language	Bengali, Telugu ..	12	6	18
	Other European countries ..	..	..	—
	Total European countries ..	12	6	18

Chapter III. B.**Social Life.**

European and Eurasian population.

But the figures for the races of Christians, which are discussed in Part VII of Chapter IV of the Census Report, are very untrustworthy, and it is certain that many who were really Eurasians returned themselves as Europeans.

SECTION B.—SOCIAL LIFE.

The household and the houses.

93.* When a new village is founded, the first thing done is to dig out tanks to hold rain-water for the cattle, washing, &c. The village is then built on the spoil; and, as in course of time old houses fall down and new ones are built, the village is raised high above the surrounding plain; in some of the old Nardak villages as much as 150 or 200 feet. The space immediately around the village is called *gara*; and here the cattle stand to be milked, weavers train their warp, fuel is stacked, dung-hills made, ropes twined, sugar presses erected, and all the operations conducted for which free space is necessary. The village is generally surrounded by a mud-wall and ditch as a protection against thieves, and is entered by gates, often of brick, and containing side-rooms in which the gossips sit when it grows hot under the huge *bari* tree or *pisi*, which generally stands just outside. Main streets (*galis*) run right through from one gate to another; and in Hajput and other villages where the women are strictly secluded, numerous blind alleys (*bogars*) lead from them, each being occupied by the houses of near relatives. In other villages the alleys run right through. The proprietors, Bassis, and Brahmins, live in the centre; the menials on the outskirts of the village. The houses are usually of adobe, except in the Nardak and Naill cities and in the older villages where brick is common; the change bearing plain evidence to the tranquility which we have substituted for anarchy. At two or three commanding positions are common houses (*panas*, *chopat*, and in Kaitial *choper*, *lathis*) belonging to the wards of the village. In Kaitial these buildings are often imposing structures. There will also be a few *baithaks* or sheds for gossiping in, and many cattle pens scattered about the village.

Entering the street door of a private house you pass into the outer room or *dahli*, beyond which you must not go without permission, and where your friend will come and talk. It is often partly occupied by some calves. Beyond this is the yard (*chau* or *argat*), separated from the streets by a wall, and in which the cattle are tied up in cattle sheds (*baru*), and the women sit and spin. Round this are the houses occupied by the various households of the family. In front of each is a room with the side towards the yard open (*dalan* or *lamsi*) which is the family living-room. On either side of this will be a *sidari* or store-room and a *chatri* or cooking place, which is kept scrupulously clean, with its *chhula* or hearth, but sometimes part of the chhuk is roofed in, and the cooking is then done there in the hot weather;

* Parts 93 to 95 are taken from Mr. Robertson's Settlement Report. I have made a few alterations in the text and added some notes.—J.M.D.

there is often an inner room beyond called *dhari* or *dohari* if with two doors, and *kota* or *holri* if with one only. Upstairs is the chamber, where the husband and wife sleep; while the girls and children sleep downstairs, and the boys in the chupal, the dakhla, or the cattle-sheds.¹

There will be some receptacles for grain (*kothi* or *chaurasi*)² made of rings of adobe built up into a cylinder. This has a small hole in the bottom, out of which the grain runs, and keeps always full a small receptacle (*aino*) open in front, from which it is taken as wanted. There will be some ovens (*bharala*, *hara*) for warming millets; there will be recesses in the wall to set as shelves (*pondhi*),³ one or two swinging trays or rope rings for water vessels; some nets (*jeli*) for carrying *khana*; a few bedsteads (*marija*, *khari*) made of wooden frames covered with netted string; a few small stools (*pira*, *gida*, *khatali*) of identical construction; a few small low wooden tables (*patra*); and some large baskets to store clothes in (*pitar*). There will be some small shallow baskets (*dalri*) for bread and grain; and some narrow-mouthed ones (*liri*) to keep small articles in. One should be able to tell the number of married women in the house by the number of handmills (*chakki*).

The Hindu's utensils are made of brass, and perhaps a few of half-metal (*tunsi*); the Muhammadan substitutes copper for brass, which he does not use.

The earthen vessels used by Hindus are usually ornamented with black stripes (*shikar*); but Mussalmans will not eat from vessels so marked, because the *ghari* full of water given to a Brahman (*munna*) on *Eid-e-Hi* after religious ceremonies by Hindus must be striped, and therefore the markings are supposed to be specially Hindu. Of course the metal vessels are expensive; but the remaining furniture of an ordinary village home costs very little. The string of the bedstead is made at home; while the carpenter makes the furniture, and the potter supplies the earthen vessels as part of their service.⁴

24. The day of twenty-four hours is divided into eight *puhrs* or watches, four of day counting from dawn, and four of night. Each *puhr* is divided into eight *gharis*. The dawn is called *pitipatti*, the early morning *tarka*, the evening *sunj*. The daily life of the ordinary able-bodied villager is one of almost unrelenting toil. He rises before dawn, eats a little stale bread, gets out his bullocks, goes to the fields, and begins work at once. About 8

Chapter III, B.

Social Life.

The household and the banian.

Daily life.

(1) A man whose son is married often surrenders the chamber to him, and sleeps himself in the stepel or back subbuilding, even though his own wife is still alive.

(2) The *lokhi* is sometimes square with a wooden floor, and so does not require covering clothes. A small toilet for grain is called a *khali* or (in the "Jangal Ris") *parala*.

(3) A wooden shelf for clothes, etc., reached by a ladder is called *tau* and an earthen ledge (*taudi*) a foot high, with apertures for the vessels of porters, running thus along the face of the wall.

(4) For a list of brass and earthen vessels in daily use see Mr. Johnson's *Assessment Report*, pages 301, 326.

Chapter III, 2.

Social Life.

Dairy Life.

o'clock his wife or a child will bring him a damper,¹ often stale, and a bowl of butter-milk or milk and water (*laan pulci* or *bachehi*). At noon he has a hearty meal of fresh damper and a little pulse boiled with spices (*dal*), or some boiled vegetable (*sag*) ; in the cold weather this is brought to him in the field ; in the hot weather he goes home for it, and does not begin work again till 2 p.m. In the evening he comes home, and after feeding his cattle eats his dinner, the grand meal of the day. His wife will have parched some jowar and soaked it in the sun till it has swelled (*khati* *maan*) and then boiled it in milk (*rahni*) ; or she will have dry-boiled some whole grain and pulse mixed (*khichri*), or made a porridge of coarsely ground grain (*daliq*), or boiled up glutinous rice into a pink mass (*chawal*), or make a rice-milk of it (*shir*). There will be a little paneer pudding (*dal*), or the pulse will be boiled with butter-milk and spices (*jholi*, *kaddi*) and some pickles (*ascher*) or rough chutney, or some vegetable boiled with salt and ghi as a relish. After his meal he goes out for a smoke and a chat to the *chupal*, or under the bar tree outside the village.

The grain generally used in the hot weather is a mixture of wheat, barley, and gram,² or any two of them, generally grown ready mixed ; in the cold weather, jowar and maize³. Unhusked wheat is seldom eaten, as it is too valuable. The vegetables used are the green pods of the *lobia* (*Dolichos senensis*), the fruit of the eggplant or *Brinjal* (*Solanum melongena*), and of the *beehni* (*Abelmoschus esculentus*), and of many pumpkins (*kaddu*), gourds (*bauri*), *watermelons* (*carbas*) and sweetmelons (*khurbuz*), and the leaves of all the brassicas, of the cocklebur or *charnai* (*Xanthium polygonum*), *methi* (*Triglochin fengorum*), of the small pulses, and the roots of carrots (*gajar*). Wild plants so used have been mentioned in Chapter I. The spices and pickles are too numerous and unimportant to detail. A hearty young man in full work will eat daily from 1 to 1½ sets of grain, one-eighth of a set of pulse, and two sets or more of butter-milk besides vegetables, &c. The richer Muhammadans occasionally eat goat's flesh ; but this is exceptional ; but the Hindu does not touch meat, while to the ordinary peasant of either religion, animal food other than milk and ghi is quite beyond his means.

The women of the family have all the grinding, cooking, cleaning the house, and spinning to do ; among the Brahmins and Rajputs they are strictly confined to the wall of the court-yard, where they cook, spin, clean cotton, grind flour, lusk rice, and so

(1) This is perhaps the best word for the bread cake of the country, though it is far inferior to a well-made damper. The 8 o'clock meal is omitted in Kailash, but a considerate widow of his would, if he did not get butter-milk with his moonley and curting mesta.

(2) Usually made of the tops of gram leaves or of the young flowering shoots of mungo planted before the flowers open. It is sometimes mixed with fine ground gram (*besan*) or barley flour.

(3) In Kailash *bachehi* is a porridge of boiled beans and *dal*, and is eaten with butter-milk. Gram is rarely used alone as it is heating.

(4) In Kailash maize is not used except in the Punnah.

on. Among the Tagas and Gujars they go to the well for water and take the dinte ; to the field, and often pick cotton and flowers. Among the Jals and Rors they also work, and do other hard field-work. They all sit more about in the alleys operating and gossiping, often very much under the trees ; and though their life is a hard one it is, to judge from appearances, by no means an unhappy one. The boys, as soon as old enough, are taken from the gutter and sent to tend the cattle ; and from that time they are gradually initiated into the labour of their lot. At evening they play noisily about a sort of rounders, skip, hide-and-seek, and proune's lace, being favourite games. The life is a terribly dull one. The periodical fair or mela and the occasional wedding break its chief relief, together with the month of sugar-pounding, when everybody goes about with a yard of cane in his mouth, and a deal of chewing (as well as a deal of hard work) is done at the press. But the toil is unrelenting ; and when we think what a bad hotel in a crowded village house is of sanitation more fit in July and August, we can only wonder at the marvellous patience and contentment of the villagers.

95. The men wear a small turban (*pugri* or *pugli*) or a strip of cloth (*dhoti*) round round the head, a short under-coat buttoning up the front (*kurti*) ; or else an overcoat (*angarkha* if long, *kurta* or *kurti* if short) fastening with a flap at the side ; and a loincloth (*dhoti* if broad and full, *khanda* if narrow, *bawri* if still more scanty), or a waist-cloth (*turi*, or it of silk), just with a small girdle (*langotli*), between the legs. The *kurti* is never buttoned and is not gathered. A single wrap (*shawl*) in the hot weather, and a double wrap (*shabut*) or a quilt (*repati*) in cold, and a pair of shoes (*patesi*) complete the toilet. Trouser (*khathia*) are only worn on occasions of ceremony ; a *bandhini* (*bandhani*) is occasionally used. Hindus and Mussulmen are distinguished by the position of the former pointing to the right and of the latter to the left. Mussulmen sometimes wear short bands, the two joined between the hips (*shashni*) ; but they usually adopt the Hindu fashion, though they preserve their own name for the garment. The dhotis of the south and west on occasions of state often wear turbans of portentous size, especially the Deccan and Daul Jals. Ghatwal Jals and Banni generally wear them white, and religious devotees of a yellow odero colour. The other dhoties are either white or made of prints ; never wholly coloured.

The married women wear a belce to support the breasts (*amti* or *magji*), married or single they wear a small mat woven to the hips (*lanchi*) buttoning to the right a *pata* (*phagri*, *lengri*, or *laungri* (*palashri*)), and a wrap (*phanki*). The *lanchi* and *lambani* women wear the *mati* and *pati* button to the right. Like a gourd (*ghar*). The *mati* is often not worn, but a *Deccan* woman always wears it, though she sometimes omits the belce. Mussulman women generally wear drawers (*khathia*), and Hindu women petticoats. Again Mussulman women wear huts (*ghogri*) over all wraps without admixture of red or yellow, while a Hindu

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Social Life.
Clothes

woman wears red clothes as a rule, and will not wear a blue coat or wrap at all; while her patniat, if blue, must be spotted or embroidered with red or yellow. But all Rajput women, unless very old, wear dresses, red or blue according to religion; on the other hand, Moslem Gujer women wear patniats after consummation of marriage, and till they grow old, and Hindu Gujer women wear the patniat, or till white or red, never wholly red. The whole red patniat is called *damer*; and the Gujer blue patniat, without without spots, *takri*; a patniat or wrap dotted with red spots is called *thikri*, from *thik* as to spot. Only prostitutes wear wholly white clothing. Children go naked till 4 or 5 years old; from times boys wear a *langoti*, and girls a triangular piece of cloth called *toran*. A girl then wears a patniat or dress, a white boy a *langoti* and *torri*, and on this a *jhola* or skirt. A girl cannot wear an *ankit* until she is married and lives with her husband. The everyday clothes are always made from the village-made cloth, which, though rougher, is much stronger than English. Prints are largely brought into holiday use. The ordinary dyes are indigo for blue and safflower for red and yellow. A complete suit of female clothes is called *til* or *tiar*; of male clothes, *tori*.

A woman's social standing is greatly determined by her ornaments; and the women, when talking to an English lady, will often confide with her on her husband's affluence in out-supplying her bazaar. Till marriage a girl may wear a silver nose-ring and silver bracelets. These are replaced on marriage by a small gold nose-ring and glass bracelets. When she goes to live with her husband she replaces the former by a larger ornament also of gold. The glass bracelets and the nose-ring form her "*zabag*," and "*zagar*" therefore means a woman whose husband is alive. A widow breaks her bracelet, and throws the pieces and her nose-ring on her husband's corpse, and they are wrapped up with it in the shroud. Armlets and long beads and anklets, being solid and not easy to get off, are always worn; other ornaments only on special occasions, such as fairs and the like. The ordinary investment for capital is to buy jewels for one's wife, as the money can always be realized on marriage. The custom of tattooing (*kheri*, *gordha*) is common, except among the Bajpas and Brahmanas. Only women do it; and they tattoo the chin, the inside of the forearm, the outside of the upper arm, the side of the waist, the calf of the leg. The Ojhias do not tattoo the arm. Men and prostitutes have small holes drilled in their front teeth, and gold set in *schamp*.²

¹ Ceremonies connected with birth, birthdays, marriages, and deaths need not be detailed. A full description of them will be found in pars. 316-335 of Mr. Robertson's Settlement Report.

(1) In Kathi-Chittis girls have great bows (Brahma, Vishnu, etc.) about their necks; these are presented to polygynous husbands on marriage; so too when a girl is given in partition, unless the marriage has taken place at a very early age.

(2) Description of the numerous ornaments worn by men and women see Mr. Robertson's Settlement of Rajput, pars. 313-314.

Jats marry at about 5 or 6 years old, Rars and Gujars at 12 or 14, Rajputs at 15, 16, and even a good deal later. As a matter of fact there is no fixed age for marriage. A Hindu may not marry his foster-mother's daughter, but he can marry any other relation of his foster-mother who is not within the prohibited degrees*. A sister of the first wife may be married or any relation in the same degree but not one above or below. A Hindu may go through the pangs with any number of virgins, but a second wife is seldom taken unless the first is childless.

After the wedding the marriage procession (*barat*) proceeds to the house of the boy's father, where the girl wife remains for a day or two.

The consummation takes place after the return of the girl to her husband's house, called *challa* or *sukha*. This takes place when the girl is pubertal, but must be in either the 3rd, 5th, 7th, 9th, or 11th year after the wedding. Among Rajputs, who usually marry late, there is no moulja, and the woman goes to live with her husband immediately after marriage.

Among Muslims there is no *pawn*, the nikah or Muslim marriage ceremony being substituted for it, which the kazi reads in presence of witnesses. Envoy (*wakil*) go into the girl's house to take her consent, and come out and announce it, the boy repeats himself three times, and the ceremony is complete. But among converts to Islam, at any rate, the other customs and ceremonies are almost exactly the same.

When once the ceremonial goings and comings are over the wife may never return to her father's house except with his special leave; and if he sends for her, he has to give her a fresh dinner. The village into which his daughter is married is entirely tabooed for the father, and her elder brothers, and all their elder relations. They may not go to it, or even drink water from a well in that village: for it is shameful to take anything from one's daughter or her belongings. On the other hand, the father is continually giving things to his daughter and her husband as long as he lives. Even the more distant elder relations will not eat or drink from the house into which the girl is married, though they do not taboo the whole village. The boy's father can go to the girl's village by leave of her father, but not without:

97.—A man may marry as often as he pleases. If he marries again on the death of his wife, he is called *takai*. The ceremony is exactly the same for a man's different marriages. But under no circumstances can a woman perform the pangs twice in her life. Thus, among the Rajput Brahmins, and Tamangs, who do not allow divorce, a widow cannot under any circumstances re-marry. But keeping this exists a remittance

CHAPTER III, B.

Social Life.

Remarriage of Widows.

is allowed under the above name. It is, in its essence, the Jewish Levirate; that is to say, on the death of a man his younger brother has first claim to the widow, then his elder brother, and after them other relatives in the same degree; though marriage cannot be performed while the girl is a minor, and her consent is necessary. But it has been extended so that a man may marry a widow whom he could not have married as a virgin, the only restriction being that she is not of his own caste. Thus a Gojat may marry a Jat or Ray widow. Neither re-marriage nor adoption, nor any other ceremony, can change the clan of a man or woman; that being, under all circumstances, the clan of the original father. Even women of mortal sin can be so married; but the woman is then called *harmi*, though it is still a real marriage. The marriage must not take place within a year of the husband's death. It is effected by the man throwing a red wrap over the woman's head and putting *wristlets* (*chara*) on her arm in presence of male and female members of the brotherhood.¹

Language.

Table No. VIII² shows the numbers who speak each of the principal languages current in the district separately for each tehsil and for the whole district. More detailed information will be found in Table No. IX of the Census Report for 1881, while in Chapter V of the same report the several languages are briefly discussed. The figures in the margin give

Language.	Population in units of 10,000		
	Males	Females	Total
Hindi	22	22	44
Punjabi	22	22	44
All other languages	22	22	44
Other Indian languages	22	22	44

the distribution of every 10,000 of the population by language, omitting small figures.

The language of the district is Hindi, with a small admixture of Panjabi words, especially in the northern portion. The dialect varies slightly from north to south; and especially the Jats of the southern border use many words not used in the rest of the district, with a pronunciation and accent quite peculiar to them. Panjabi is spoken in the villages scattered through the Patiala territory. The small Purbia-speaking population is mostly found in the town of Karmal and on its origin to followers of troops coming from Bengal, which were stationed in Karmal when it was a cantonment 40 years ago. The Marwars are only the Bihari traders, who have invaded this district of late years. The Bengali are Government ser-

(1) The data of Mr. G. T. Doherty showed me, when discussing their sweepings, that even their arrangements were disengaged with whom the woman was not a widow of a member of her own husband's family. In other words the widow was merely related to the woman, or in other words intermarriage within a single community is almost unknown. Children of diverse marriages likewise equally well educated for government service. A. J. M.

(2) The system in the districts and was established in 1881. Hindi was recognized as a distinct language at the Census of 1881.

vants or their families, and the Bagri-speakers are poor people who have been driven from time to time in this direction by famine, and their descendants.

92. Table No. XIII* gives statistics of education as ascertained at the Census of 1881 for each religion and for the total population of each taluk. The figures for female education are probably very imperfect indeed. The figures in the margin show the number educated among every 10,000 of each sex according to the Census returns. Statistics re-

Religion.	Total population.	Total Educated.
Caste Hindus— Cultivators and weavers	1,321 1,321	11 11
Caste Hindus— Cultivators and weavers	72 72	23 23

garding the attendance at Government and aided schools will be found in Table No. XXXVII.

The distribution of the scholars at these schools by religion and the occupations of their fathers as it stood in 1881-82, is shown in the margin.

Religion.	Boys.	Girls.
Caste Hindus— Cultivators and weavers	1	1
Others— Cultivators	1	1
Others— Weavers	1	1
Others— Labourers	1	1
Others— Others	1	1
Total of all castes— Cultivators and weavers	1,321 1,321	11 11

of them can write the Persian character. Among the ranks of the headmen the people are almost wholly illiterate. It is very difficult for a tillager to send his boy to school unless there is one in a town close to his village; and even when this is the case they object to sending their sons to school, because they say, it renders them discontented with, and unfit for their position. The Persian, especially, they object to.

100. It is impossible to form any satisfactory estimate of the wealth of the commercial and industrial classes.

Poverty or wealth
of the people.

Assessments.	1870-71.	1871-72.	1872-73.
Class I. Assessments taxed ..	122	691	72
Class II. Assessments taxed ..	1,222	10,000	1,770
Class III. Assessments taxed ..	24	105	25
Class IV. Assessments taxed ..	1,122	6,222	342
Class V. Assessments taxed ..	1,200	5,222	342
Class VI. Assessments taxed ..	2,200	12,000	1,770
Class VII. Assessments taxed ..	20	2,000	20
Class VIII. Assessments taxed ..	20	10,000	20
Class IX. Assessments taxed ..	1,200	12,000	1,770
Class X. Assessments taxed ..	1,200	12,000	1,770

These figures show the working of the income-tax from 1870-71 to 1871-72, and Table No. XXXIV gives statistics for the license tax for each of the years during which it was in force. The distribution of

* This applies to the district as it was constituted in 1881.

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Social Life.

Economy or wealth
of the people.

Licenses granted and fees collected from 1850-51 to 1885-86 between towns of over and villages of under 5,000 souls, is shown below :—

Year.	1850-51		1851-52		1852-53		1853-54		1854-55		1855-56		1856-57	
	1850-51	1851-52	1852-53	1853-54	1854-55	1855-56	1856-57	1857-58	1858-59	1859-60	1860-61	1861-62	1862-63	1863-64
Total	12	12	12	12	12	12	12	12	12	12	12	12	12	12
1850-51	12	12	12	12	12	12	12	12	12	12	12	12	12	12

The receipts from license tax exclusive of deductions from the salaries of Government officials have been :—

Year.	Collection.
	Ru.
1850-51	... 18,506
1851-52	... 22,754
1852-53	... 24,702
1853-54	... 40,079

But the numbers affected by these taxes are small. It may be said generally that a very large proportion of the artisans in the towns are extremely poor, while their fellows in the villages are scarcely less dependent upon the nature of the harvest than are the agriculturists themselves, their fees often taking the form of a fixed share of the produce while even where this is not the case, the demand for their products necessarily varies with the prosperity of their customers. Perhaps the leather-workers should be excepted, as they derive considerable gains from the hides of the cattle which die in a year of drought. The circumstances of the agricultural class are discussed below in section II. of this chapter.

Character and Disposition of the people.

101. The character and disposition of the people is thus described by Mr. Luberton :—

"I have a great liking for the ordinary villager. His life is one of monotonous toil under very depressing circumstances. He grumbles much, but only as a farmer is bound to do; and he is marvelously patient, cheerful, and contented in the whole. He is often exceedingly intelligent considering his opportunities, he is hospitable in the extreme, and he loves a joke when the point is broad enough for him to see. His wants are easily satisfied; he has formulated them thus :—

"Bachchay baal dekh, ya dho man bari;

"Halk hindhiya, na miti na jyoti;

"Bharat Bhumi, Is dildar, na ratar phole;

"Bha de kaler, to bohr na laga."

"Let me see ten good acres and ten mounds of mixed grain, the milk of a grey buffalo and some sugar mixed into it, a fair assessment demanded after the harvest. God give us so much, and I won't say another word."

"I will even say that according to his standard he is moral, though his standard is not ours. The villager looks at the end, and not at the means. If he honestly thinks that his friend is in the right in his claim, a respectable man will tell any number of circumstantial lies to produce the same impression on the mind of the Judge. But if he thinks him in the wrong, he will not hear evidence either for or against him; he will say that he knows nothing about the matter. And when formally confronted by the whole truth, a villager will rarely persist in a claim which he knows to be false. Of the good faith that governs the mass of the people in their dealing with one another, it would, I believe, be difficult to speak too highly, especially between members of the same community. Of their sexual morality, I can say nothing. If scandals are common, we hear but little of them, for they are carefully hushed up. My impression is that the village life is infinitely more pure in this respect than that of an English agricultural village; partly, no doubt, because of the early marriages which are customary."

"The loyalty of the people in the tract is, I think, beyond question. They remember the horrors of the days of anarchy which preceded our rule too vividly to be anything else. Two points in our administration, however, are especially complained of by them. They complain bitterly of Native Jails,⁽¹⁾ and say that, since their authority has been extended, under the *zamindari*, it has begun to grow slack. And they object to our disregard of persons, and to our practical denial of all authority to the village elders. They say that a hundred nowadays cannot beat the ears of an impudent village official without running the risk of being fined by the *disparante*: and I think it can hardly be denied that, in many respects, our refusal to recognise the village as a responsible unit is a mistake; while, when we do partly enforce the system of joint responsibility, we wholly deny to the people the privilege of joint government."

Tables Nos. XI., XII., and XIII. give statistics of crime; while Table No. XXXV shows the consumption of liquors and narcotic stimulants.

(1) Tumultuous relations between *zamindar* and peasants of the same village and neighbouring villages occur because they have no legal machinery for redress, such persons being unanswerable. The late Deputy Commissioner, Mr. Brinsford, has pointed out to me the marked effect which this has in upholding the village morality.—J. H. D.

(2) *Khalat* or *khalat* is certainly a "name of scorn" in Karnal. In the early days of our rule the people probably suffered from the importation of J. W. P. officials. At the same time I have heard them talk in the highest terms of these native officials, who have proved extremely useful to them. In fact, from the Indian point of view a village tyrant, and a very popular administrator after annexation, was *khalat*, and I think that the Karnal people had a very just idea of *khalat*.⁽²⁾ While the local *pargana* *Khanda* is a *khanda* where *khanda* is a *khanda* or *khalat* which means "to pull the face of a horse and the back of a horse."—J. H. D.

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Social Life.
Character and dis-
position of the
people.

Chapter III, C.

Religious Life.

*General statistics
and distribution of
religions.*

SECTION C.—RELIGIOUS LIFE.

102. Table No. VIII¹ shows the numbers in each tehsil and in the whole district who follow each religion, as ascertained in the Census of 1881, and Table No. XI.III² gives similar figures for towns. Tables Nos. III, IIIA, IIIB of the Report of that Census give further details on the subject. The distribution of every 10,000 of the population by religion is shown in the margin. The limitations subject to which these figures must be taken, and especially the rule followed in the classification of Hindus, are fully discussed in Part I, Chapter IV of the Census Report. The distribution of every 1,000 of the Mosalman population by age is shown in the margin. The facts of the Christian population are given in Table No. IIIA of the Census Report; but the figures are, for reasons explained in Part VII, Chapter IV of the Report, so very imperfect that it is not worth while to reproduce them here.

Religion	Rural population	Cities population	Total population
Hindus	1,902	2,000	7,200
Sikhs	115	38	153
Jains	—	100	72
Buddhists	—	2,199	2,199
Christians	—	1	1

Castes	Rural population	Total population
Sardars	—	92
Sikhs	—	121
Others and unclassified	—	89

Table No. IX³ shows the religion of the major castes and tribes of the district, and therefore the distribution by caste of the great majority of the followers of each religion. A brief description of the great religions of the Punjab and of their principal sects will be found in Chapter IV of the Census Report. The religious practices and beliefs of the district present no special peculiarities; and it would be out of place to enter here into any discussion on the general question. The general distribution of religion by tehsils can be gathered from the figures of Table No. VII; and regarding the population as a whole no more detailed information as to locality is available. Practically the religions of the district reduce themselves to two. There are few Sikhs or Christians, and no Buddhists; only an occasional Jain is to be seen; the Sarcocks, who have two fine temples in Panipat, are almost confined to the towns, and wholly to the Bania caste; and the village communities are, almost without exception, either Mussalmen or Hindu. Among Hindus are included the sweeper caste, who would

(1) This applies to the district as it was constituted in 1881.

not be recognised by Hindus proper as belonging to their religion.

Chapter III. C.
Religious Life.

103. The Mussalmans of the district must be divided into two very distinct classes. The original Mussalmans, such as Salyans, Pathans, Kunziris, Sheikhs, and Angdals, are strict followers of Islam. In the villages a few laxities have crept in; but in the main their religion and its customs are those of all Mussalmans, and we need say no more about them. But the case is very different with the Mussalman Rajputs, Gujars, and similar converts from Hinduism. Their conversion dates, for the most part, from the close of the Pathan, and the early days of the Maghal dynasty. Many of them are said to have been converted by Surangul, who is known in the district as Narsingh bishish; and these were probably the last made, for the change of faith always dates from at least eight generations, or 250 years back, and pre-elymism was, of course, unknown under the Sikhs and Mahrattas. In some cases the whole community of a village is Mussalman; but quite as often one branch has abandoned, and the other retained their original faith, and in no case has any considerable group of villagers abandoned Islam as a whole.

Mussalmans.

Living thus side by side with their Hindu brethren in the same or the next village, sharing property in the same land, and forming a part of the same family with them, it is impossible that the Mussalman converts should not have largely retained their old religious customs and ideas. In fact, till some 25 years ago, they were Mussalmans in little but name. They practised circumcision, reported the beliefs, and worshipped the village deities. But after the mutiny a great revival took place. Muhammadan priests travelled about preaching and teaching the true faith. Now almost every village in which Mussalmans own any considerable portion has its mosque, often of adobe only, and all the greater and open molitories have been discontinued. But the local deities and shrines still have their shrines, even in villages held only by Mussalmans; and are still worshipped by the majority, though the practice is gradually declining. The women, especially, are offenders in this way. A Mussalman woman who had not adhered to the small-pox goddess would feel that she had deliberately risked her child's life. Family priests are still kept up as of old; and Brahmins are still fed on the usual occasions. As far as superstitions, as distinct from actual worship, they are untouched by the change of faith, and are common to Hindu and Mussalman.

(1) The text of Chapter III. C. is taken from Mr. Ibstock's Settlement Report. I have made a few additions, chiefly to the form of names.—J. M.D.

Chapter III. C.

Religious Life.

Hindus

104. The student who, intimately acquainted with the Hindu Pantheon as displayed in the sacred texts, should study the religion of the Hindus of the district, would find himself in strongly antinatalist company. It is true that all men know of Shiva and of Vishnu;¹⁾ that the peasant, whom he has nothing else to do to that degree than to yawn perchance, takes the name of Narayan; and that Bhagwan is made responsible for many things, not always to his credit. But these are the lords of creation, and too high company for the vilerager. He recognises their supremacy; but his daily concern in his work-a-day-world are with the host of deities whose special business it is to regulate matters by which he is most nearly affected.²⁾

Three deities.

105. These minor deities, whose cult comprises the greater part of the peasant's religious ideas and acts, may be broadly divided into four classes. First come the benevolent deities, such as the Sun, the Jannu, Bhoomi, Khwaja Khur, and the like. Then the malevolent deities, mostly female, such as the Small-pox Sisters, Sankha, the Fairies, &c. Then the haunted dead, such as Guga, Lalkhata, and Baba Farid; and finally, the malevolent dead, such as Saifuds (Shududs). It is a curious fact that most of the malevolent deities are worshipped chiefly by women, and by children while at their mother's apron. Moreover, the offerings made to them are taken not by Brahmins, but by impure and probably aboriginal castes³⁾ and are of an impure nature, such as chhurna, foal's, and the like. And they are seldom or never worshipped on Sunday, which is the proper day for benevolent Hindu deities. The primitive Aryan intruders must have inter-married, probably largely, with the aboriginal women; and it is a question to which enquiry might profitably be directed, whether these deities are not in many cases aboriginal deities. Even setting aside the theory of inter-marriage, it would be natural that the new comers, while not caring to invoke the aid of the benevolent genii loci, might think it well worth while to propitiate the local powers of evil upon whose territory they had intruded. In this very spirit the Hindus have adopted the worship of the Muhammadan saints, and especially of the more malevolent ones. It can do no harm to worship them, while they may be troubleshoots if not propitiated; and all these saints are commonly worshipped by Hindus and Muhammadans alike.

(1) Vishnu is never so named even by a Brahmin, and many of the villagers hardly know his name.

(2) In a recent copy of *say* the peasant is a non-theist. The name of Parameya, "the supreme lord," is often on his lips, and he believes that rain and hail, wind and storm, fulfil his word. He always refers the author to letters of his wife in the will of Parameya. The readings make the minor deities as of the world's whatev'r. — J. M. O.

(3) In some cases the Brahmins will consent to be fed in the name of a deity, when they will not take offerings made of his creation. And they will in some villages allow these girls to take the offerings, for if they die in consequence it does not matter much. They are more valuable, and must not bear the risk.

106. There can be no doubt that the presence of Islam by the side of Hinduism has had considerable effect upon the latter.¹ The Hindu villagers, when asked about his gods, will generally wind up by saying "after all there is but one great one," and they generally give the information asked for with a half smile, and will often shake their finger and say it is a *kakha* religion. Of course the existence of such a feeling is exceedingly compatible with the most scrupulous care not to neglect any of the usual observances; and, whatever might be his private convictions or abnegation of conviction, a man would feel that it would be pre-eminently unsafe to omit the customary precautions, and be thought ill of if he did so.

107. A peculiar sect, known as *Sadhs*, and mostly of the *Jat* tribe, own the village of Zaihpur Sullian and half of Gurhi Kothan in the Jutri pargana. They are followers of the Guru Usho Das, who was doubtless a reformer of the type of Kabir or Nanak. They worship no material object, paying no respect to the Jumna or Ganges. They have no temple or idol, and worship only the one God under the title of "Sat," or the "true one." They have a *gurdwara* in which the whole community meets on each day of the full moon (*purnima*), when the precepts of the *sant* are recited. Music is not allowed in their worship. They neither tea nor feed Brahmins, nor allow them to take any part in their weddings or funerals. At marriage the phera is presided over by a "panch" of respectable *Sadhs*. Following the orders of their guru, they *adam* to no one but the Supreme Being, and this peculiarity sometimes gets them into trouble with native officials.

108. Temples proper are built only to Vishnu and Shiva, and hardly ever by the villagers, who content themselves with making small shrines to the local deities.² In Kaitbal there are monasteries at Pehowa, Dhandarkot, Ramthali, and Gehua.

109. The most ordinary form of worship is a salutation made by joining the hands palm to palm, and raising them to the forehead. (*Shat mura*). A villager does this whenever he passes the shrine of a village deity. In one village the mason who built the new common room, threw in, as a thanks-offering for the completion of the work, a wooden Englishman who still sits on the top of the house;

(1) I have known a Hindu lumberman, a *lly* by tribe, when my horse stumbled, reciting "Allah" with great distress, and when asked why, he explained that Allah and Haldi were one apparently acting flesh, or another Hindu name for the Devil. A Mussulman Rajput chieftain, when told he should be allowed to look at a tomb with precious images dug out of the bed of the old Chaugar, replied:—“Why, our fathers made those!” His great mystery is still confined to the name.—J. M. D.

(2) These shrines are usually small halls; the larger building erected in honour of Ganga Sir is always called a *mari*, while Shiva Sir's shrine is a *mukhi*.—J. M. D.

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—
Religious Life.
Effect of Islam upon
Religions

The sect of *Sadhs*.

Saints.

Notes of myself.

Chapter III. C.

Summary of methods

and, though the rain has affected his complexion much for the worse, the people always salute him on coming out of their houses in the morning. There is also *chilakarina*, which consists in touching first the object to be worshipped, and then the forehead, with the right hand. Another form of worship is to scoop out a little hollow in the earth by the shrivo and fling the soil on to a heap. This is called *masti kachha*, and seems very much analogous with the common custom of flinging stones on to a bairn. It is practised chiefly in honour of ancestors and fairies, and heaps of mud raised in this way by a shrivo sometimes reach a height of 8 feet. The person doing this will often say to the god "I will dig you a tank;" and perhaps the custom has its origin in the honour attachable to the maker of a tank in this thirsty land; but it is equally possible that this is only a local explanation of a custom brought from a more stony country, and the origin of which has been forgotten, for hundreds of our villagers have never seen a stone in their lives.

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110. Offerings (*sharhanas*) generally take the form of a little grain, or milk, or cooked food, or a few sweets offered in front of the shrine in small numbers or jars, the remainder of the offering being given to the appropriate receiver. Libations are not uncommon; and a white cock is sometimes killed. And in many cases Brahmins are simply fed in the name of the god. Offerings of cooked food may be divided into two classes. To the benevolent gods, or to ancestors, only *pakki roti*, that is cakes or sweets tried in ghee may be offered; while to the malevolent and impure gods, *kuchhi roti*, generally consisting of *churma*, or stale bread broken up and rolled into balls with ghee and ghee, is offered. Brahmins will not take the latter class of offerings. Vessels usually are common, the maker promising to build a shrine to feed so many Brahmins in the event of his having a son, or recovering from illness, or the like.

Parsons, 1886

III. When a villager is ill, the disease is generally attributed to the influence (*guru, phant*) of a malvolent deity or of a ghost (*khati*) who has possessed him (*spirit or chakat or pilash jani*). Recovery is then had to divination to ascertain who is to be appealed, and in what manner. There is a class of men called *bhagats* or *ayam* (literally, knowing ones) who exercise the gift of divination under the inspiration of some deity or else, generally a snake-god or Saityal. The power is apparently confined to the manual (aboriginal) caste, is often hereditary, and is rarely possessed by women; it is shown by the man wagging his head and dancing, and he generally builds a shrine to his familiar spirit, before which he dances. When he is to be consulted, which should be at night, the inquirer provides tobacco and music. The former is waved over the body of the invalid, and given to the *khagat* to smoke, and the music plays, and a *ghi* lamp is lighted.

and the *bhangat* sometimes lashes himself with a whip; under which influence the mothkanyer is seized by the affliction, and—in a paroxysm of dancing and head wagging, states the cause of the malignant influence, the moment in which he is to be propitiated and the Son when the disease may be expected to abate. Another mode of divination is practised thus. The *ayam* will wave wheat or jowar over the patient's body, by preference on Saturday or Sunday; he then counts out the grains one by one into heaps, one heap for each god who is likely to be at the bottom of the mischief, and the deity on whose heap the last grain comes is the one to be appeased. The waving of the grain or talcado over the patient's body is called *chhuna*; the counting the grains *kewali*.

The malignant deity is appeased by building him a new shrine or by offering at the old one. Very often the grain to be offered is put by the hand of the sufferer during the night and offered next day; this is called *vrati*. Or the patient will eat some and bury the rest at the sacred spot, or the offerings will be waved over the patient's head *varas* before being offered; or on some moon-light night while the moon is still on the wax, he will place his offering with a lighted lamp on it at a place where four roads meet; this is called *langri* or *nagari*. Sometimes it is enough to tie a flag on the sacred tree or to roll on the ground in front of the shrine, or to rub one's neck with the dust of it. Boils can often be cured by stroking them with a piece of iron and repeating the name of the deity concerned. Witchcraft proper (*Yade*) is principally practised by the lowest castes, and you hear very little of it among the villagers.

112. The Hindus of the district are Vaishnavas, though Vishnu is hardly recognised by them under that name. But under the names of Ram and Narayan he is the great god of

Chapter III, C.
Religious Life.
Practices, division,
and other—

Vishnu, Ram, and
Narayan.

(1) Cattle disease is combated by performing *tapa*. A *Rishi* is called in. While the necessary tools no grain must be ground or cooking carried on in the village; in case the deities should be driven away. The *Rishi* marks out a space on the ground, burns a fire, and goes through certain ceremonies. A rope is stretched across the entrance of the village below which the cattle must pass. The ashes of the *Rishi's* fire are tied up in pieces of rag and these with an earthenware lid marked with *Capilla* signs and an *Amritamrita* vessel also containing ashes are attached to the rope. The *Rishi* makes 8 *parikarma*, one of cloth girdle and the other of rags of the new type, and with these he sprinkles the animals at the pass under the rope in the morning. A pugilist with a long stick of salik farms out to it is also fired in the ground outside the village gate. The rope lasts for a few days, during which time all the cattle that pass are not given to the *deities*, but burned where they lie. A *Yadi* and *Kasi* is a large house in the village. Apparently the *Yadi* is paid by means of getting nothing if the disease does not abate. In *Kasi* a cow constituting a shankhi or *Yadi* from the *Sewal* of *Mukundula* is hung near the village gate. The *Sewal* gives three letters free of charge. This is a popular remedy both with *Hindus* and *Muslims*, and no bond is quite so effective as the more elaborate *yatra*—J. M. D.

Chapter III. C.
Religious Life.
*Vision, Dream, and
 Narayan.*

the country. Temples to him (*Shakurdewar*) exist in several of the larger villages, generally built by Brahmins or *Bairagi*, and almost always insignificant. He is worshipped under the name of Ram by Rajputs only; under the name of Narayan by other castes. On the 11th of Kartik or *dronothi* *gyaras*, when the gods wake up from their four month's sleep, Brahmins are fed in his name; and on the 5th of Bhadon (*Sangatshanti*), such villagers as have fasted, which no man working in the fields will have done, will generally go to the *Shakurdewar* and make an offering. And on some Sunday in Bhadon they will feed a few Brahmins in his name, Brahmins and *Bairagi* take the offerings.

Shiv Mahadev.

113. *Shivalas* are not at all uncommon in the villages, built almost without exception by *Bairagi*. The priests are *Ghans* or *Jogis*, generally of the *Kaupkata* or ear-pierced class, and they take the offerings. No Brahmin can partake of the offerings to Shlv, or be priest in his temple, though they will worship him and sometimes assist in the ceremonies, thus deviating from the strict rule of the original cult. On the *Niratri*, on the 12th of Sawan and Phagan, such people as have fasted will go to the *Shivala*; but it is seldom entered on any other day.

*Surya Devata, i.e.
 the true god.*

114. The Sun is the god whom the people chiefly delight to honour. Any villager if asked whom he worships most will mention him. No shrine is ever built to this god. Sunday is of course the day sacred to him. On Sunday the people do not eat salt; nor do they eat milk for *gho*, but make it buttermilk, of which a part is given to the Brahmin in honour of the Sun; and a lamp is always burnt to him on Sunday. Brahmins are fed every now and then on Sunday in his name, and especially on the first Sunday after the 15th of Burk, when the harvest has been got in, and the agricultural year is over. Before the daily bath water is always thrown towards the Sun (*lajgi*);¹ and every good man, when he first steps out of doors in the morning, salutes the Sun, and says *dharm ko rakhde surj mukhar*, or "keep me in the faith, oh Lord the Sun." Brahmins take the offerings.

The Jamuna.

115. After the Sun comes the River Jamuna, always spoken of as *Jamuna Ji*; and so honoured that even when they complain of the terrible evils brought by the canal, which is fed from the river, they say they spring *Jamuna Ji ki dholi se*, "from Lady Jamuna's friendship." There are no shrines to the Jamuna; the people go and bathe in the river, or, if unable to go so far, in the canal, on the *mukhi* or *subrants* in Chait and Kartik, on the *Daschra* of Jeth, and on the 15th of Kartik, or every day in that month if need enough. And Brahmins are constantly fed on Sunday in honour of *Jamuna Ji*, and take all offerings.

(1) Sometimes called *Surj Narayan*.—J. M. D.

(2) This is done to the new moon too on the rising of her appearance, if one thinks of it.

116. Every morning, when a man first gets off his bed, he does obeisance to the earth, and says *sukh rakhya Dharti Mata, "preserve me Mother Earth."* When a cow or buffalo is first bought, or when she first gives milk after calving, the first five streams (drains) of milk are allowed to fall on the ground in her honour, until at every time of milking the first stream is so treated. So when medicine is taken, a little is sprinkled in her honour. So at the beginning of ploughing and sowing oblation is made to her and she is invoked.

117. Bhairam should, from his name, be the god of the land, and not of the homestead. But he is, in these parts, emphatically the god of the homestead, or village itself, and is indeed often called *Khara* (a village) and *Bhairam* indiscriminately. In one or two villages a god called *Bhairam** or *Khetpal* (field-nourisher) is worshipped; but, as a rule, he is unknown. When a new village is founded, the first thing of all is to build a shrine to *Bhairam* on the site selected. Five bricks are brought from the *Dhamia* of the village whence the emigrants have come; three are arranged on edge like the three sides of a hump, the other two are put over them like a gable roof, an iron spike is driven in, five lamps are lighted, five *laddus* are offered, Brahmanas are fed, and the shrine built over the whole. In many cases, where two villages had combined their homesteads for greater security against the marauders of former days, the one which moved still worships at the *Bhairam* of the old deserted village site. *Bhairam* is worshipped on Sunday. They burn a lamp and offer a cake of bread at the shrine, and feed Brahmanas. This is always done twice a year, after the harvests are gathered in, and also on other occasions. *Bhairam* is also worshipped at marriages; and, when a woman has had a son, she lights a lamp and offers with crowding five cakes of the paste of grain, called *boru*, to the shrine. So too the first milk of a cow or buffalo is always offered to *Bhairam*. Women commonly take their children to worship *Bhairam* on Sunday. The shrine is very usually built close to the common room or just outside the village site; and the only villages in which there is not one are held wholly by Sayids. Brahmanas take the offerings.

118. Khwaja Khizer is the local god of water; though the name really belongs to one of the Muhammadan prophets, whose special duty it is to take care of travellers. He is worshipped more in the Khadis than in the Bhangar, and especially on Sunday. Twice a year after the harvests he is worshipped at the well, lamps being lighted and Brahmanas fed. And on the festivals of Holi and Diwali, a raft called *hangri* is made of the *boru* just mentioned, and a lighted

Chapter III, C.

Religious Life.

Bhairam, Khetpal,
Mother Earth.

Dhamia or the god
of the homestead.

Khwaja Khizer, the
Water-god.

* *Bhairam*, or the terrible one, is the Buddhistical religion is a form of Mahadev. He is worshipped under various forms, such as *Kasi Bhairam*, *Bhit Bhairam*, *Baleshwar* a part of the village religion becomes, as *Bhit Bhairam*, he drives away all the numerous *Bhairs* who live in the earth.—Z.M.D.

**Chapter III. G.
Religious Life.**

Pitri amusters

lamps put on it and set afloat on the tank in his honour. Brahmanas take the offerings to Khwaja Khier, though they are occasionally given to the water-carrier or Jhumwar.

119. Among the Gujars especially, tiny shrines to the ancestors are common all over the Beldi; and among other castes they will be found in every village. Occasionally this shrine is to the female ancestor, and built upon the brick brought from her shrine at the place of origin, as with the Jaglan and Sainhu Jats. Mud is always stung up to these shrines. And all the people feed Brahmanas in honour of their ancestors on the Koch of the mouth (*morma*), and especially in the *Kangat*, or the 16 days previous to and including the *mawas* of *Dasy*, which are specially sacred to the *pitr*. Cattle are never worked on funerals.

Satis.

120. There are a great number of *satis* or places where widows have been burnt on their husband's pyres all over the country. They are generally marked by large shrines 3 or 4 feet square. Lamps are lit and Brahmanas fed at them on the 11th or 15th of Kartik. In one case Pagas, who had emigrated from their old village, used yearly to come more than 40 miles to offer at their old *sati* till quite lately, when they took away a brick from the *sati* and used it as the foundation of a new *sati* at their present village, which answered all purposes. This is always done in the event of emigration. Brahmanas take the offerings.

*The gods or small
dead.*

121. When a man has died without a son (*beti napat jana*) he becomes a *yaksh* or *pi*, and is particularly spiteful, especially seeking the lives of the young sons of others. In almost every village small low platforms (*bherka*, *banks*) with dagger-like depressions in them, are made to the *yaksh*, and on the mounds, and especially on Divali or the nights of Kartik (but not in the *Kangat*, which is sacred to the *pitr*), the people pour Ganges-water and cow's milk into these vases, and light lamps and feed Brahmanas, and dig mud by them. It is more than probable that *bherka* are identical in origin and significance with the "evil waters" which have so puzzled antiquaries. Brahmanas take the offerings. Young children often have a rope hung round their necks by their mothers in the name of the *yaksh*.

*The Evils or small
pest group.*

122. The pestilence group of diseases is supposed to be caused by a band of seven sisters, of whom Sitala or Mata, the goddess of small-pox, is the greatest and most turbulent. Others of the group are Masani, Basanti, Mata Mai,* Poliandis, Laxmikaria, and Agwani or the little one who goes in front of all. But the general form the shrine takes in a village is that of a large one for Sitala, and a number of others for the others, of whom the people will know the name of only one or two.

* This is probably a name of Devi who drives people mad, and is worshipped by some, but not very generally, as the *ki* of Chail and Asan.

Basthi is a new addition to the group, the disease having quite lately come from the hills. They are sometimes called Sri Sital, Mat Muni, Bari Basthi, and so forth. The people profess to distinguish the illness due to each; but it is impossible to find out what they are, except small-pox, which is undoubtedly due to Sitala.

There are seven principal shrines to these deities at Patri, Kalri, Bochli, and Siva of this district; Bidhian near Bhagwan, Birkiana near Jhajjar, and at Gurgaon itself. They are never worshipped by men, but only by women and children of both sexes up to the age of 10 or 12. Enormous crowds collect at these shrines on the 7th of Chait, which is called *sik* or *sikhi* utsav, or Sitala's 7th. Besides this, *Pak* or *Dolandi*, the day after the Holi festival, is a favourable day, and any Monday, especially in Chait and Sarh. Sitala rides upon a donkey; and grain is given to the donkey and to his master the potter at the shrine, after having been waved over the head of the child. Fowls, pigs, goats, coconuts, and churna are offered, and eaten by sweepers and Hindu Jogi, and white cocks are waved and let loose. An adult who has recovered from small-pox should let a pig loose to Sitala, or he will be again attacked.¹ During an attack no offerings are made; and, if the epidemic has once seized upon a village, all offerings are discontinued till the disease has disappeared, otherwise the evil influence (*chhot*) will prevail. But so long as she keeps her hands off, nothing is too good for the goddess, for she is the one great dread of Indian mothers. She is, however, easily frightened or deceived; and if a mother has lost one son by small-pox, she will call the next *Kirria*,² he of the daughhill; or *Boharu*, an outcast; or *Mora*, the worthless one; or *Rheguana*, given by the great god. So, too, many women dress children in old rags begged of their neighbours, and out of their own houses, till they have passed the dangerous age.

123. The country is covered with small shrines to Muslim martyrs; properly *Shahids*, but called *Saiyids* by the villagers. There was a Raja Tharo in the Nardak, after whom several villages are still called Therwa, and who dwelt in Hohri. He used to levy seigniorial rights from virgin brides. One night the daughter of a Brahman suffered thus. Her father appealed for help to Meen Sabh, a Saiyid, who collected an immense army of Saiyids, Maghals, and Pathans, and who vanquished the Raja. The fight extended over the whole country to Dholi; and the Saiyid shrines are the graves of the Mussulmans who

Chapter III. C.
Religious Life.
The *Shahid* or
martyr group.

The *Saiyid*
shahid or
martyr.

(1) I have seen a pig actually sacrificed at the shrine.—J.M.D.

(2) Other appellations used are *Chatri* (an old tree), *Chakra* (spurrier), *Chakka* (as worthless as a chakka or picketing basket), *Gheria* (walked along the ground), *Nath* (having a with or nose-ring). The last name requires some explanation. If a woman have had several male children, the loss of the next born is mourned and a nose-ring inserted, in order that the village may mistake him for a girl and so pass him over. Mr. Ishwara computes two pence, Guadalcanal, &c.—J.M.D.

Chapter III. C.
Religious Life.

The Religions
(Hindoo) or
martyrs.

sell. But a frequent prescription in sickness is to build a shrine to a Saivîl, whose name is often not even given, and, when given, is almost always purely imaginary, so that the Saivîl shrines are always being added to, and most of them are not connected with any actual person. Lamps are commonly lit at the shrines on Thursdays; but offerings are seldom made except in illness, or in fulfilment of a vow; they often take the form of a fowl or a goat or especially a goat's head (*sir*), and they are taken by Almsmen (âshâvâ). Saivîls are very fond of blue flags. One of the Imperial box-stones or milestones has been transformed into a Saivîl's shrine by the people of Karnal city, and every Thursday evening there are worshippers, and sacrifices by them. The Saivîls are very malevolent, and often cause illness and death. One Saivîl Bhûm, who has his shrine at Bari² in Raithal, shares with Guru Devi of Mani Mârja the honour of being the great patron of the thieves in this part of the Panjab; and a share of the booty is commonly given to the shrines. Boils, especially, are due to them; and they make the misery.

The Snakes' snake-gods.

124. There is a group of Nagas, or female Snake-deities, known as Singhs by the people, and especially called Demûts or godlings. They are almost always distinguished by colour; and the most commonly worshipped are Kali, Harsi, and Bhuri Singh, or black, green, and brown. But here again the Bhagat will often direct a shrine to be built to some Singh whom no one has even heard of before; and so they multiply in a most confusing way. They are servants of Hindu Bhîsh Nâg, King of Putul or Nectarus. Dead men also have a way of becoming snakes—a fact which is revealed in a dream, when a shrine must be built. This worship extends all over the district, and is practised by all castes; but most of all by Gujars, and in the Kâbulir. If a man sees a snake he will salute it; and, if it bites him, he or his heirs, as the case may be, will build a shrine on the spot to prevent a repetition of the occurrence. But independently of this, most villageos have shrines to them. Sunday is their day; and also the 8th of Bhûndîn in particular, when most people worship them. Brahmins do not mind being fed at their shrines, but will not take the offerings, which go to Hindu Jogi. Both men and women worship them, especially at weddings and births, and after chhurna andлага (lubra). They cause fever; but are not on the whole very malevolent, and often take away pain. They have great power over milk cattle; the milk of the 11th day after calving is offered to them; and libations of milk are very acceptable to them. They are certainly connected in the minds of the people with the jâts or uncouth, though it is difficult to say exactly in what the connection lies. Wherever the worship of the jâts is most prevalent, there the snake-gods also are especially cultivated. The snake is the common ornament on almost all the minor Hindu shrines.

(1) *Bâbâ, p. 22, 2, 5.*

123. *Guga*, or *Jahir Piè*, or *Dugeraulah*,¹⁾ though a Marathian, is supposed to be the greatest of the tanka-kions. He is buried near Nisar, but is worshipped throughout the district. The 9th and 15th of Bhandon, especially the former, are his days; and generally the 9th of any month; and also Mondays. His shrines are usually a cubical building with a micaat on each corner, and a grave inside. It is marked by a long bamboo with peacock plumes, a coconut, some coloured thread, and some hand-painted figures and a blue flag on the top. This is called his *chadri* or fly-flap; and on the 9th of Bhandon the *Sopas* take it round the village to the sound of drums, and people salute it and offer charms. He is not malevolent; and the loss of respect which his good nature causes him is epitomised in the saying—*Gaya bera mi deya, tau kuchh an ehhin lega*—“If Guga doesn’t give me a son, at least he will take nothing away from me.” He is associated by the people with the five *Pies*, who occasionally have abodes in the villages.

125. The *Naris* are a somewhat vaguely defined class of malvolent spirits, who *reinak* women only, especially on moonlight nights, giving them a choking sensation in throat and knocking them down (? hysteria). Children, on the other hand, they protect. They seldom have shrines built to them; but a tree or a corner by a tank is generally sacred to them, and huts will be hung to them. They are Marathians, and are apparently the same as the *Parind* or *Peri*, being also known as *Shakparis*; but they resist being called so, and no women would mention the word. *Chaurias* are offered to them on Thursday evening by women and children, and taken by *Muallimia Jatis*, or sometimes *Jogis* or sweepers; and they are worshipped at weddings. The middle of Chait, too, is a common time for offerings to them.

(1) Guga was by name a Chachua Rajput and a Hindu descendant of the great Raja Manuk Rao. He was born as Gachchha, rose here. His father was Raja Jasur and his mother's name was Banchi. She was barren, and in hope of obtaining a son offered for 12 years on the saint Gomukhram, the founder of the monastery of Kumbha Jeps. Her name Kachchha stuck by chafing, and being mistaken for Banchi got two Rivers sent the saint, and bore two sons Ugran and Varjan. When he used to go to Gomukhram and tell his host his place had received one of his gifts, he gave her a staff, promising her a son who would be interested in all the four quarters, and kill Ugran and Varjan. The two little shrines usually built to right and left of Guga's well are sometimes referred to being dedicated to Narasimha (Ugran's father) and Dvarkanta, others say they are dedicated to Kali Singh and Bhairav Singh. Guga is sometimes painted seated on a horse, and about to start from the Rajput country in pursuit of Ugran and Varjan. His mother stands in front of the horse, trying to prevent her son's departure. He holds in his hand a long staff (dhara), and over his head the hands of 2 under each, the body of each long called around the staff. If a man is bitten by a snake people think he has been neglecting Ugran. Both Hindu and Marathian Jatis revere his abode. His people first moved aborigines really distinguished. His worship extends into the N.W. Provinces and possibly the limits with which he is worshipped would give a rough ethnological boundary, showing how far the colonisation of the country by tribes pressing up N. and E. from the Beas extended.—J. M. D.

Chapter III, C.

Religious Life.
Sikhs' saints.

127. The local saints are innumerable, many villages having shrines to names never heard of elsewhere; often those of people killed in the village. A few of the most celebrated saints worshipped in the district are mentioned below:—

Mirra Sahib was a Sayid of Baghdad, of whom many wonderful stories are told. He is often said to be the same as *Huzur Piran Pir* of the Punjab; but this seems very doubtful. He once led a mighty army to battle, and had his head carried off by a cannon-ball during the fight. But he did not mind a hit and went on fighting. Then a woman in one of Raja Tharwan's villages said:—"Who is this fighting without his head?" Upon which the body said:—"Halt, hark," and fell down dead, but, as he was going to fall, he said:—"What! Are not the villages upside down yet?" Upon which every village belonging to and called after Raja Tharwan throughout the country was turned upside down, and all their inhabitants buried except the Brahman's daughter. The walls are still standing upside down to receive you. *Mirra Sahib* was buried in Habri, and is commonly invoked and worshipped by the Narduk people; as also his sister's son Sayid Kabir. They have a joint shrine called *Mamu-khanja* (uncle and nephew) in Sunpat.

*Lakhdaia or Sathi Sarwar*¹ is a famous Punjab saint chiefly worshipped by Gujars and Rajputs. On *Sawan*, the last day of *Sawan*, the women paint his picture on the wall, and the Brahmans bind a sacred thread on the wrist. He is also called *Lohianwala*, or *Sathi Sultan*, or *Salangraha*.²

Bava Naril Shakarganj of Pakpatan in Montgomery, is also honoured by the people, and has a shrine at Ghugripur, where crowds of people offer to him after the spring harvest.

Bassi Kahundar, a contemporary of *Bava Naril*, is a very celebrated local saint. He used to ride about on a wall at Buddha Khera, but eventually settled at Panipat. He prayed so constantly that it became laborious to get water to wash his hands with each time; so, he stood in the Jumna, which then flowed under the town. After standing there seven years the fishes had gnawed his legs, and he was so stiff that he could

(1) He is worshipped on Thursday. On that day no milk should be consumed, but drink fresh, given in charay, or uttered at Sarwar's shrine. Offerings are taken by the Pardhi.—I. M. D.

(2) The following list of shrines found close to the site of a village some two miles beyond the Kurnool borders in the Ambala district illustrates Mr. Holtzman's account of the village religions.

Khosa Deo (para. 117).

Ramdeo Deo (para. 117).

Kali Singh Deo (para. 121).

Bhaw Singh Deo (para. 121).

Jasw Singh Deo (para. 125).

Gope Pir Deo (para. 123).

Firoz Deo (para. 133).

Sarai Singh Deo (para. 133).
Sarai Singh is probably Goga's father.—I. M. D.

hardly move. So he asked the Jatuns to step back seven paces. She, in her hurry to oblige the saint, went back seven fars and there she is now. He gave the Panipat people a charm which dispelled all the flies from the city. But they grumbled and said that they rather liked flies; so he brought them back a thousand fold. The people have since repented. He died at Budha Khera, and there was a good deal of trouble about burying him. He was buried first at Karnal; but the Panipat people claimed his body and opened the grave, upon which he sat up and looked at them till they felt ashamed. They then took away some bricks from the grave for the foundation of a shrine; but when they got to Panipat and opened the box, they found his body in it; so he was now buried both at Panipat and at Karnal. There is also a shrine to him at Budha Khera built over the wall on which he used to ride. His history is given in the *Ain Akbari*. He died in 724 Hijri.

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Religious Life.
Minor saints.

Nangans, or graves of saints said to be 9 yards long, are not uncommon. They are certainly of great length.

Kala Sayyid, the family saint of the Kalur Rajputs at Panipat, is a great worker of wonders, and if one sleeps near his shrine, he must lie on the ground and not on a bedstead, or a snake will surely bite him. If a snake should, under any other circumstances, bite a man in the Kallay's ground, no harm will ensue to him.

123. The spirit after death undertakes a year's travels as a *puret*. But if, at the end of that time, he does not settle down and enter upon a respectable second life, he becomes a *bhat*, or if a female, *chhuti*; and as such is an object of terror to the whole country. His principal object then is to give as much trouble as may be to his old friends, possessing them, and producing fever and other malignant diseases. People who have died violent deaths (called *Gharimard* or *appat*) are especially likely to become *bhats*; hence the precautions taken to appease the Sayyids and others in like case with them. In many villages there are shrines to people who have been killed there. Sweepers, if carelessly buried mouth upwards, are sure to become *bhats*; so the villagers always insist upon their being buried face downwards (*munda*), and riots have occurred about this matter, and petitions have been presented to the Magistrate. The small whirlwinds that raise pillars of dust in the hot weather are supposed to be *bhats* going to bathe in the Ganges. *Bhats* are most to be feared by women and children, and especially immediately after eating sweets; so that if you treat a school to sweets, the sweet-seller will also bring salt, of which he will give a pinch to each boy to take the sweet taste out of his mouth. They also have a way of going down your throat when you yawn, so that you should always put your hand to your mouth, and had also better say *Narayan* afterwards.

Ghost or Bhats.

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Religious Life.

Omens and charms.

129. The people are very observant of omens (angans). The following verse gives some of the principal ones:—

*Kayi mirgu dakhne, buri bicer ho;
Guyi sampat haur, jo ghera dakhne ho.*

"Let the crow and the black buck pass to the right; the snake to the left. If a mantis is to the right, you will recoup your losses."

A mantis is called the horse or cow of Ram; is always auspicious, especially on Dusshera; and the villagers will salute one when he sees it. Owls portend disastrous happenings. Black things in general are bad omens (*kosaan*); and if a man wishes to build a house until the first stroke of the spade turns up charcoal, he will change the site. On the other hand, iron is a sovereign safeguard against the evil eye. While a house is being built there is always an iron pot for a ghoru painted black is near enough to deserve the evil eye) kept on the works; and when it is finished the young daughter of the owner ties to the lintel of the door a *kaugra*, consisting of an iron ring (*ekhalla*) with other charms, and her father gives her Rs. 1-1 for doing it. Till then the house is not inhabited. The same *kaugra* is used at weddings and on other occasions. A *kar* is especially unlucky. First among good omens is the *dagar*, or two water pots, one on top of the other. It should always be left to the right.

Charms are in common use. The leaves of the *sirs* are especially powerful; and after them, those of the mango. They are hung up in garlands with a mystic inscription on an earthen platter in the middle; and the whole is called a *takka*. The *jand* is another very sacred tree. In illness it is a good thing to have an inscription made on an earthen vessel by a *fakir*, not to wash it off and drink the water. So in protracted labours the washings of a brick from the fort Chakabri of Amritsar are potent; or, if any body knows how to draw a ground plan of the fort, the water into which the picture is washed off will be equally effective as a potion.

Superstitions.

130. Of course the superstitions of the people are innumerable. Odd numbers are lucky: *Numeri Daxi impuri gaund*. But three and thirteen are unlucky, because they are the bad days after death: so that *teram* is equivalent to "all unclean." And if a man, not content with two wives, wish to marry again, he will first marry a tree, so that the new wife may be the fourth, and not the third. So if you tread on a three-year old jetty it exuding you lose your way to a certainty. The preference for the number 5, and, less markedly for 7, is noticeable. An offering to a Brahman is always 1*1*, 2*1*, 3, 7*1*, and so on, whether rupees or sara of grain. The illuminations of wells and parts of wells and their gear, on the other hand, are always fixed in 2, many and three quarter bands; not in round numbers. The tribal

traditions of the people, and those concerned with numbers and areas, with chief's wives and sons, and with villages, swarm with the numbers 12, 24, 16, 52, 84, and 360. Hindus count the south a quarter to be especially avoided, for the spirits of the dead live there. Therefore your cooking hearth must not face the south; nor must you sleep or lie with your feet towards the south except when you are about to die. This *ansh* is auspicious, as you cannot die for much little time after, so, when a man succeeds, his friends grow enthusiastic, and congratulate him saying "satun jiv—" "live a hundred years;" or Chakpudi, a name of Devi, who was snatched out by Brahma in the form of a fly.

It is well not to have your name made too free use of, especially for children. They are often not named at all for some little time, and when named, are often addressed as *baji* or *baji*, according to sex. If a man is wealthy enough to have his son's horoscope drawn, the name then fixed will be carefully concealed till the boy is 8 or 10 years old, and past danger. And even then it will not be used commonly, the every-day name of a Hindu being quite distinct from his real name given in his *jatakpatra* or horoscope. At his marriage, however, the real name must be used.

A Hindu will not eat, and often will not grow, onions or turnips; nor indigo, for purple blue is an abomination to him. Nor will a villager eat oil or the black sesame seed, if formally offered him by another; but, if he do, he will serve the other in the next life.¹ Thus if one ask another to do something for him, the latter will reply—"hya, main to tera khati til shala hua!" "What? Have I eaten your black sesame?" Sacred groves (*salak*) are not uncommon; and any one who cuts even a twig from them is said to suffer for it.² They exist in some of the villages where wood is most scarce, but are religiously respected by the people. The Hindus of the tract have a curious superstition which forbids the first transaction of the day to be a purchase on credit. It must be paid for in cash, and is called *bokhi*. The age of miracles is by no means past. In 1903 a miraculous bridge of sand was built over the Jamsa in this district at the prayer of a fakir, of such rare virtue that lepers passing over it and bathing at both ends were cured. A good many lepers went from Kurrial to be cured; but the people say that the bridge had "got lost" when they got there.

131. Of course the greater number of the village festivals and the observances appropriate to them are common to all Hindus. But some of them are peculiar to the villages, and a

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¹ In the case of *Baji*, and probably in *Indra*, also, no reason will prove that he will allow Leekha, a cow carter, to live by making tiles, to grow a plant of it on his head. This superstition dies away as we go northwards, and *ansh* is freely grown in *Kalabagh* and *R.D.*

² *Tuska*, too, are often set apart by an *mithi* (*new leaves*). Therefore they cannot be used for irrigation, and there is less fear of the drinking water falling.—*J.M.U.*

Fairs and festivals.

Chapter III. C.**Religious Life.****Fasts and Festivals.**

description of them will not be out of place. The ordinary *Diwali* is on the 14th of Kartik, and is called by the villagers the little *Diwali*. On this day the *rites* or ancestors visit the houses. But the day after, they celebrate the great or *Gobardhan* *Diwali*, in which Krishna is worshipped in his capacity of cowherd, and which all owners of cattle should observe. On the day of the little *Diwali* the whole house is fresh plastered. At night lamps are burnt as usual, and the people sit up all night. Next morning the house-wife takes all the sweepings and old clothes in a dust pan, and turns them on to the dung-hill, saying "*dehile sur ho*," which means thrifless, lazy, and therefore poor. Meanwhile the women have made a *Gobardhan* of cowdung, which consist of Krishna lying on his back surrounded by little cottage leaves of dung to represent mountains, studded with grass stems with tufts of cotton or rag on the top for trees; and little dung balls for cattle, watched by dung men dressed in bits of rag. Another opinion is that the cottage-leaves are cattle, and the little balls calves. On this is put the churn-staff and five whole sugar-canes, and some parched rice and a lighted lamp in the middle. The cowherds are then called in, and they salute the whilst and are fed with parched rice and sweets. The Brahman then takes the sugar-cane and eats a bit; and till that time nobody must eat, or press, or eat rice. Parched rice is given to the Brahman; and the bullocks have their horns dyed, and get extra well fed.

Four days before the *Diwali*, or on the 11th of Kartik, is the *Dronachari Gyaras*, on which the gods wake up from their four months' sleep, beginning with the 11th of Sarh, and during which it is forbidden to marry, to eat sugar-cane, or to put now string on to bedsteads on pain of a snake biting the sleeper. On the night of this day the children run about the village with lighted sticks and torches. On the 15th and 16th of Phagan the villages worship the *amla* tree or *phyllanthus emblica*, mentioned by Huen Tsang as being so abundant beyond Delhi. This tree is the amla myrobalae, a representation of the fruit of which is used for the finial of Buddhist temples. Its worship is now connected with that of Shri; Brahmins will not take the offerings. The people circumambulate the tree from left to right (*prakarana*), pour libations, eat the leaves, and make offerings, which are taken by the *Kanphata Jogi*. Fasts are not much observed by the ordinary villager, except the great annual Fasts; and not even these by the young man who works in the fields, and who cannot afford to fast. *Gur*, sour made from singhara or water caltrops, from the *sawank* grain, wild swamp rice, the seeds of cockatomb (*schizolac*), and milk, in fact almost anything that is not included under the term *anj* or grain, may be eaten on fasts; so that the abstinence is not very severe.

Karzel Mission.

182. The Karzel Mission is connected with the Society for the Propagation of the Gospel in Foreign parts, and is a

branch of the Debit Mission. The Mission was begun in Karnal in 1863, and work is also carried on in Panipat and Kaithal. The staff consists of 2 Zemana Missionaries, 1 Medical Missionary and her assistant, and 8 Christian teachers in girls' schools and Zemanae. There are also 1 native clergyman and 3 readers. The operations of the Mission include Zemana teaching, girls' schools, and a Hospital and Dispensary for women and children. 3,277 cases were attended in 1931. There is also a small school for the sons of Mohis, and a shop for the sale of religious and secular books. The number of Native Christians is men 7, women 6, children 13, total 26.

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Tribes and
Castes.
Karnal Mission.

SECTION D.—TRIBES AND CASTES.

183. Table No. IX gives the figures for the principal castes and tribes of the district, with details of sex and religion, while Table No. IXA shows the number of the less important castes. It would be out of place to attempt a description of each. Many of them are found all over the Panjab, and most of them in many other districts, and their representatives in Karnal are distinguished by no local peculiarities. Some of the leading tribes, and especially those who are important as land-owners or by position and influence, are noticed in the following sections; and each caste will be found described in Chapter VI of the Census Report for 1931. The Census statistics of caste were not compiled for *talsils*, at least in their final form. The figures for the chief tribes in the *tal* I *pargan*, which were compiled from the Census papers at the recent settlement, are given below:—

Estimates and local distribution of tribes and castes.

LAKHAWAIS TRIBES.		Castes.		
Rajput	... ... ...	18,129	Bauli	.........
Ror	... ... ...	9,359	Chamar	.........
Brahman	... ... ...	8,101	Chhatri	.........
Jat	... ... ...	7,262	Tal. Kambhar,	... ... ...
Kambhar	... ... ...	6,127	Badhi, Kshetra	.........

The proportion of the total area owned by the 5 tribes shown in the first column is:—

Rajputs	...	...	...	32 per cent.
Ror	...	...	...	17½ "
Jats	...	...	...	15½ "
Kambhars	4½	"
Brahmans	4½	"

Of course many Brahmans own little or no land. The chief

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landowners in Kaithal are Jats (42 per cent.), Rajputs (22 per cent.), Bors (8 per cent.), and Sujars (7 per cent.).

104. The Tagas are probably the oldest of the existing inhabitants of the tract; they originally held a great part of the Khadur, and now hold most of *pargana* Saman; and as wherever the river has not passed over the land within recent times, Tagas are still in possession, it is not improbable that they were driven from much of their old territory by changes in the Jumna. The Rajput bards and the traditions of the people tell us that in old days Chandel Rajputs held Kaithal and Samana, and had local head-quarters at Rohand, whence they ruled the neighbouring portion of the tract. The Baroh Rajputs held the country round Amritdh, Sardion, and Salwan; while the Pandira held Thanesar and the Nardak, with capitals at Pundri, Habri, Pumirk, and Churangrah (Churnit), which last must once have been a position of great importance, as it is situated on a great bend on the old bank of the Jumna. The Mandhar Rajputs came from Ajodhia, and, settling in Jindh, expelled the Chandel and Baroh Rajputs and took possession of their country, the former going towards the Sivalik, and the latter beyond the Ghaggar. The Mandhars fixed their capital at Kalayat in Patiala, whence they settled the local centres of Amritdh, Sardion, and Gharunda.

The Panwars were expelled by the Chauhan Rajputs from Sambhal in Mundiabat under the leadership of Rana Har Rai, and fled beyond the Jumna. The Chauhans made Junilla their head-quarters, and held a great part of the Nardak, and also large possessions in the Doab. The Tuarwar Rajputs originally held Panipat and the country round, but would seem to have been dispossessed by Afghanistan in the early days of the Muhammadan conquest. The old boundary of the Tunwars, Chauhans, and Mandhars in Kaithal used to meet in Pai (now a Jat village). Pai belonged to the Mandhars. Habri to the east was and is a Chauhan village, and Mandri, which is now a Ror village, was Tunwar. The Tunwars also held Kharana, Phard, and Bawiput, in which last they had a large fort. Probably the Tunwars once held the whole Nohli tract and were turned out of part of it by Mandhars. They now hold the Dot of the Markana in Ambala and a number of estates in the Pihowa pargana of Kaithal. Outside Pohowa their only possession is Kaithal in the large village of Phral. They still own a section of the town of Panipat. The country of the Tunwars or Tuhara is popularly known as Toderwara. The Chauhan chief along or in conjunction with their former dependents held six or seven villages round about Habri. The Chauhan and Mandhar traditions are given in greater detail in pars. 143—144.

The Rajput chiefs (Ranas and Raies) would seem, subject to the payment of tribute to Delhi, to have enjoyed almost independent authority up to the time of the consolidation of the Mughal Empire under Akbar, or even later; and squeezing the

Rams was a favourite occupation of the old Afghan Emperors. Their degradation to the position of mere village chiefs is attributed to Aurangzeb, who forcibly converted many of them to the Muhammadan faith.

In the Ain Akbari the principal castes of pargana Karnal are stated to be Raughars and Chauhans; the word Raughar, now used for any Muslim Rajput, being probably applied to the Mandharas, many of whom had adopted Islam. Those of pargana Panipat are given as Afghans, Gujara, and Ranghars. The surrounding castes were Tagas in Gangan ; Afghans and Jats in Sonepat ; Jats in Kurana ; Rajputs, Raughars, and Jats, in Basdeo ; Ranghars, in Pandri ; Raughars and Jats in Habi ; and Raughars and Tagas in Inde. The Pandits held Bhatinda, and the Marais the country about Samana. Mr. Ibbetson writes in his Settlement Report of *tahsil* Panipat and pargana Karnal :—

"Local tradition has enabled me to make a rough approximation to the tribal distribution at the time of the Ain Akbari (1590 A.D.) and I give it in Map No. V. I think some reliance may be placed upon the general features of the map. In some cases the descendants of the former inhabitants still periodically visit the shrines existing on the old ancestral site : and in particular, amulets in the unimpeachable architecture of the Afghans tell every here and there of people who have now disappeared. It will be observed that Afghans then held a large part of the lower Khadir. They had also formerly held a good deal of the Bhangar, which was occupied at the time we speak of by Gujara. At present there is only one Afghan village, border part of the city of Panipat, in the whole tract ; and I think the total disappearance of this caste must be accounted for by changes in the river. It is to be noticed that they have been replaced very largely by Gujara ; and I do not think Gujara were ever in a position, as Jats most undoubtedly were, to acquire territory by conquest in this part of the country, especially from Afghans. I cannot help thinking it probable that the Afghans left their Bhangar villages for the more productive Khadir soil as it was less available by changes in the river ; and that they were again, after the time of Akbar, driven out by the branch of the Jamuna already mentioned as sweeping over the parts held by them. The parts near Bahadurabad and Bhawani have, as I have already pointed out, escaped river action altogether in recent times, and are still largely occupied by the original Taga inhabitants. But in the intermediate parts of the Khadir the people have only been settled for some eight generations, which, at the usual Indian estimate of 25 years for a generation, would bring their first arrival well this side of the date of the Ain Akbari."

The Gujara were, as usual, intimately connected with the Rajputs, and were for the most part settled by them in portions of their territory. The Gujara who originally held the country about Naraina were Chokar Gujara ; those about Sohana and Nain were Channaur ; while those of Kholawal and Bapanli were Rawala. The two first classes have been largely replaced by Jats and Bors ; while the last has spread over the parts of the Khadir formerly occupied by Afghans.

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Castes.Local organization
of the tribes.

135. The primary sub-division of the tribes is into *thapas* or *khatus*. A tribal community having obtained possession of a tract, in course of time it would be inconvenient for them all to live together, and a part of the community would found a new village, always on the edge of a drainage line from which their tanks would be filled. This process would be repeated, till the tract became dotted over with villages all springing originally from one parent village. The people describe the facts by saying that, of several brothers, one settled in one village and one in another; but this no doubt means that the parts of the community that migrated consisted of integral families or groups of families descended in one common branch from the ancestor. In this way were divided the many villages known by the same name, with the addition of the word *kalan* and *khard*, big and little. This by no means implies that *kalan* is larger than *khard*, but only that the older branch settled in *kalan*. The group of villages so bound together by common descent forms a *thapa*, and sub-families are still recognized, the village occupied by the descendants of the common ancestor in the eldest line being, however small or reduced in circumstance, still acknowledged as the head. To this day, when a headman dies, the other villages of the *thapa* assemble to install his heir, and the turban of the parent village is first tied on his head. When Brahmins and the brotherhood are fed on the occasions of death, &c., (siffer), it is from the *thapa* villages that they are collected; and the Brahmins of the head village are fed first, and receive double fees. So among the minor castes, which still retain an internal organization of far greater vitality than the higher castes now possess, the representative of the head village is always the foreman of the *caw* jury which is assembled from the *thapa* villages to hear and decide disputes. In old days the subordinate villages used to pay some small chauthroyat to the head village on the day of the great *Dussehra*. The head village is still called "great village," the "urban village," "the village of green," or "the tika village," *tika* being the sign of authority formerly impressed in old days on the forehead of the head of a *des*—and leader in the presence of the assembled *thapa*: Mr. Ibbetson says:—

"In one case a village told me that it had changed its *thapa*, because there were so many Brahmins in its original *thapa*, that it found it expensive to feed them. I spoke to the original *thapa* village about it, and they said that no village could change its *thapa*. 'Pat koyai headia; sangre mi kova nahi bawali.' A man may forget his *mohabbat*, but not a mother her motherhood."

Abolition of *thapa*,
gives birth to the tribal
organization.

136. But the *thapa* is not wholly confined to the original tribe which founded it. A man without sons often settled his son-in-law in the village as his heir; and as the castes are exogamous, the son-in-law was necessarily of a different family. So, too, a man settled a friend by giving him a share of his

land. The strangers so admitted have in many cases separated their land off into separate villages; but just as often they still live in the old village, and in some cases have overshadowed the original family. It is curious to note how the fiction of common descent is, even in these cases, preserved, as has been so well justified upon by Minerva. The man who thus takes a share of another's land is called *bahubhi*, or "earth-brother;" and if a landowner of a *caste* other than that of the original owners is asked how he acquired property in the village, his invariable answer is "*bhai karka haseya*," "they settled me as a "brother."

But it is not only by fictitious relationship that strangers have obtained admission into *thipes*. In some cases the pressure of the troublous times which were so frequent in former days has induced two weak groups of adjoining villages to unite for common defence. And still more frequently, people settled originally as cultivators have, by the lapse of time or by the dying out of the original owners, acquired proprietary rights. Village boundaries were before our times by no means so well defined as they are now, as is shown by the boundaries often zig-zagging in and out of adjoining fields held by different villages, and by contiguous villages sometimes having their lands intermixed. Boundaries, where they lay in uncultivated land held by villages of the same tribe, were probably almost unknown; for even now the cattle graze in such cases almost independent of them.

It was, and is still, a common custom to settle cultivators in a small outlying hamlet (*gurhi* or *maya* or *theri*) in the village area to cultivate the surrounding land; and the old maps and papers show that it was very much a matter of chance whether, when we made a survey and record of rights in land, these were marked off as separate villages or not. It will be shown in the succeeding section of this chapter that we confused cultivating possession and consequent liability for revenue with proprietary right; and, when these small hamlets were held by cultivators of a different caste from those of the parent village, they were generally marked off and declared to be their property. This is particularly the case with Rors, many small villages of which caste are dotted about among the Rajputs of the Kardak of *pargana* Karnal. These were originally small communities settled by the Rajputs as cultivators in their land to assist them to bear the burthen of the Government demand. The Rors in Panipat have, almost in every instance, been similarly settled by former Gujer inhabitants, of whom a few families still remain in many villages as the sole representatives of the old owners. Brahmins too have acquired land in many villages by gifts made in the name of religion. Where the Sikhs got a strong hold of the country, they followed their favourite policy of carving out new estates in the waste of the older villages.

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Tribes and
Castes.

Admission of strangers into the tribal organization.

Chapter III. D. and settling them with low class but industrious cultivators; and in this way the *thapa* organization was weakened.

Tribes and Castes.

Imperial Thapas.

187. The *thapas* above described are those based upon tribal organization, and are still recognized by the Rajputs and more or less by the people generally. But the Imperial revenue system, in adopting the tribal *thapa* as one of its units, somewhat modified its constitution. The revenue was primarily assessed and collected by the local amil, in Imperial authority. But he worked principally through the *chandbris* or local heads of the people, who represented large sub-divisions of the country, based, as far as possible, upon tribal distribution. Thus *chandbris* existed in old days at Jundla, Panipat, Hala and other places, and received an allowance called *nambir* in consideration of the duties they performed. They again worked almost entirely by *thapas* the assessment being fixed for a whole *thapa*, and being distributed over the constituent villages by the headman of the village, presided over by those of the *ka* or chief village. These revenue *thapas* coincided generally with the tribal *thapas*; but they occasionally varied from them from considerations of convenience. Old pargana Panipat contained 101 *thapas*, half Jaurasi having been separated by Farrukhsir, as stated in Chapter III.

Division of tribes into exogamous and endogamous.

188. The above remarks apply to the territorial organization of the tribes. But the internal organization of the tribe is still more important as bearing upon its social relations. The tribe as a whole is strictly endogamous; that is to say, no Jat can, in the first instance, marry a Gujar or Hror, or any one but a Jat and so on. But every tribe is divided into clans or *gotis*; and these clans are strictly exogamous. The clan is supposed to include all descendants of some common ancestor, wherever they live. Mr. Wilson writes:—

"I have had ~~some~~ doubts whether many of the clans do not take their present names from the places from which they have spread. But I think the reasons against this theory are, as the whole, cogent; and that the similarity of names, which not very unfrequently occurs, is owing to the village being called after the clan, and not the clan after the village. Of course local nick-names (*ali*, *by*, &c.) are often given, and these may in some cases have eventually obscured the original clan name."

Traces of phratries,* are not uncommon. Thus the Mandhar, Kandhar, Barpujar, Sankarwal, and Panjhar clans of Rajputs sprung originally from a common ancestor Lao and cannot intermarry. So the Dasswal, Man, Dalal, and Sivali clans of Jato, and again the Muhal, Sual, and Rehwal clans of Rajputs, are of common descent, and cannot intermarry.

The fact that many of the clans bear the same name in different tribes is explained by the people on the ground that a

* "The phratry is a subdivision, as the term imports, and a natural growth from the organization into gentes. It is an organic union or association of two or more gentes of the same tribe for certain common objects. These gentes were usually such as had been formed by the segmentation of an original gens."—Morgan's Ancient Society, page 88.

Bachha Rajput, for instance, married a Gujar woman, and her offspring were called Gujars, but their descendants formed the Bachha clan of Gujars. This sort of tradition is found over and over again all over the country; and in view of the almost conclusive proof we possess that descent through females was *caso the rule* in India, as it has been probably all over the world, it seems rash to attribute all such traditions merely to a desire to claim descent from a Rajput ancestor. It would appear that there are actually Rajput clans existing, sprung from Bhat, Brahman, and Carpenter fathers and Rajput women. At present the offspring of a mixed connection (marriage proper is impossible) take the name of the father; but those of the pure blood will not intermarry or associate with them. Some traces of totemism are still to be found; and, as gentile organizations have almost always been closely connected with totems, it is probable that further inquiry, and especially an etymological examination of the names of the clans, would greatly extend their numbers. This also would account in many instances for clans in different tribes bearing the same name. Thus, the Jaglan Jats worship their ancestor at a shrine called *Ded*, which is always surrounded by *kain* trees, and if a woman married in a Jaglan family passes a *kain* tree, she will cover her face before it as before an elder relation of her husband. Again, the Mar Jats will not burn the word of the cotton plant.

139. Every clan is exogamous; that is, while every man must marry into his own tribe, no man can marry into his own clan. But this is by no means the only limitation imposed upon inter-marriage. In the first place, no man usually marries into a family, of whatever clan it may be, that is settled in his own village or in any village immediately adjoining his own. The prohibition is based upon "singar ki saccadi," or the relationship founded upon a common boundary, and is possibly a survival from marriage by capture. The old rule is loosening like rigid, especially among Mussalmans, but two social reasons continue to strengthen its vitality:—(1) There is the importance of marrying your daughter where you can get grazing for your cattle in seasons of dearth. For instance in Kalathai Jats of the Banjar and Jats of the Naill intermarry with advantage to both sides. (2) There is the important object of getting rid of your father-in-law. If you live near him your wife always wants to visit her parents, and her filial promptings lead to expense and inconvenience. This limitation on inter-marriage with neighbours is further extended by the Rajputs, so that no man of them can marry into any family living in the *thope*, into any family of which his father, grandfather, or great-grandfather married.¹ Thus, if a Manikar Rajput

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Division of tribes
into tribes, exogamy
and endogamy.Exogamy among the
clans.

(1) In fact the Ghanas say they avoid their own kins and yet (Shobhas) and also their maternal grandfather's *Danda* in marriage. The restrictions on inter-marriage between members of the same *jaat* appear to be breaking down. The *Naathars* in Kalathai avoid their own tribe and maternal grand-father's *shanda*.—J.M.D.

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among tribes.**

married a Chauhan Rajput of the *Jatilla*, his son, grandson, and great-grandson would not be able to marry any Chauhan of any village in the Jatilla *thapa*. But beyond this, and the prohibition against marrying within the clan, the Rajputs have no further limitations on inter-marriage. Among the other castes the *thapa* is not excluded; but no man can marry into any family of the clan in which his mother or his father's mother belongs, wherever these clans may be found.¹ The Gujara, however, who are generally lax in their rules, often only exclude such persons of these clans as live in the individual village from which the relation in question comes.

140. Broadly speaking no superior tribe will eat or drink from the hands or vessels of an inferior one, or smoke its pipes, but the rule is subject to exception, which are noted in para. 227 of Mr. Wilson's Settlement Report.

Jats, Gujara, Rors, Rakharis (a camel-grazing caste), and Ahirs (a shepherd caste) eat and drink in common without any scruples, and they used to smoke with carpenters, but are ceasing to do so. Mussalmans have lately become much less strict about these rules as governing their intercourse among themselves, and many of them now eat from any respectable Mussalman's hand, especially in the cities. And, subject strictly to the above rules, any Mussalman will eat and drink without scruple from a Hindu; but no Hindu will touch food from any Mussalman, and will often throw it away if only a Mussalman's shadow falls upon it, partly perhaps because Mussalmans eat from earthen vessels, which no Hindu can do unless the vessel has never been used before. Brahmins and Rajputs will not eat from any one below a Jat, Gujara, or Ror; while these three tribes themselves do not, as a rule, eat or drink with any of the social castes; and the following castes are absolutely impure owing to their occupation and habits, and these must touch defiles food.—Leather-worker, washerman, barber, blacksmith, dyer (*akhimp*), sweeper, dum, and Shanak. The potter is also looked upon as of doubtful purity. The pipes of a village, being often left about in the common rooms and fields, are generally distinguished by a piece of some thing tied round the stem—blue rag for a Mussalman, red for a Hindu, leather for a chauri, string for a Sweeper, and so on so that a man wishing for a smoke may not defile himself by mistake. Gar and most sweetmeats can be eaten from almost any body's hand, even from that of a leather-worker or sweeper, but in this case they must be whole, not broken.

141. There is a very extraordinary division of the non-Rajput tribes in the Karnal *purjana* and Panipat and the neighbouring parts of Dehli and Rohilkhand into the two factions

(1) Jats and Rajputs of Kothial and Rohil and Rors of Indri and (2) marry the sons of (1) father, (2) mother, (3) father's mother, (4) mother's mother. But many of the Kothial Rors will marry girls belonging to the sons *par* to their maternal grandmother.—J.M.D.

(*sheep*) of Dehin and Haulania, respecting the origin of which no very satisfactory information is forthcoming. The Dehins are called after a Jat clan of that name, with its head-quarters about Bhagwanpur in Sonepat, having originally come from Hawana near Delhi. The Haulania faction is headed by the Ghatwals or Malik Jats whose head-quarters are Dher ka Akbaria in Gohana, and who were, owing to their successful opposition to the Rajputs, the accepted heads of the Jats in those parts (see page 145). Some one of the Emperors called them in to assist him in coercing the Mandhar Rajputs, and thus the old enmity was strengthened. The Dehin Jats, growing powerful, became jealous of the supremacy of the Ghatwals, and joined the Mandhars against them. Thus the countryside was divided into two factions; the Gujars and Tagas of south Karnal, the Jaglan Jats of Shajpur Naulha, and the Latmir Jats of Rohtak joining the Dehins; the Huda Jats of Rohtak, and most of the Jats of the southern half of the district except the Jaglans, joining the Haulanias. In the mutiny disturbances took place in the Rohtak district between those two factions, and the Mandhars of the Nardak ravaged the Haulanias in the south of the tract. And in framing his rolls the Settlement Officer had to alter his proposed division so as to separate a Dehin village which he had included with Haulania, and which objected in consequence. The Dehin is also called the Jat, and occasionally the Mandhar faction. The Jats and Rajputs seem, independently of these divisions, to consider each other, tribally speaking, as natural enemies; and one is often assured by Jats that they would not dare to go into a Rajput village at night.

142. In describing the principal tribes of the district, we will begin with the Rajputs. It is hardly necessary to say much about their well-known tribal characteristics. They are fine, brave men¹ and retain the feudal instinct more strongly developed than any other non-martial caste, the heads of the people wielding extraordinary authority. They are very tenacious of the integrity of their communal property in the village land, and seldom admit strangers to share in it. They are often lazy and always proud, and look upon manual labour as derogatory, much preferring the care of cattle, whether their own or other people's. In the central and Khadur parts they have abandoned pastoral for agricultural pursuits; but even here they will seldom, if ever, do the actual work of ploughing with their own hands; while the fact that their women are kept strictly secluded deprives them of an invaluable aid to agriculture.² In the Nardak a great part of the

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Castes.

The Dehin and Haulania factions.

The Rajputs.

(1) It is a pity that efforts are not made to enlist Rajputs from the Nardak in our regiments. The Mariana Rajputs of Bihar are often found in the army, but Karnal as a recruiting ground is almost barren, probably because no attempt is made to work it.—J.M.D.

(2) The poor cultivation in many Rajput estates is largely due to the fact that the men have to do much out-door work, apart from actual field work, which in a Jat village would be done by women.—J.M.D.

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**—Tribe and
Caste.**

The Rajputs.

actual work of cultivation is done by other castes. They are, of course, cattle-keepers by ancestral profession; but they exercise their calling in a gentlemanly way, and there is certainly honour among Rajput shepherds. Mundiyan Rajputs are called *Hanghars* by other castes and *Chotikars* by their Hindu brethren, from *choti*, the Hindoo swine-track, which the Musselman does not preserve. But both terms are considered abusive, especially the latter. The principal clans are the Chauhans and the Mandhars.

The Mandhars.

143. The Mandhars were settled in very early days in the country about Samana; for Piras Shah classified them, carried off their Roma to Dohli, and made many of them Mussalmans. The Salidun branch obtained the villages now held by them in the Nardak in comparatively late times by inter-marriage with the Chauhans. And though they expelled the Chandul Rajputs from Kohend and Gharananda when they first came into these parts, yet the Chandols re-conquered them; and the final occupation by Mandhars coming direct from Kalayat in Patiala is possibly of comparatively recent date.

The *Jogas* (charts) of the Rajputs come every three or four years from Jaipur and record the births that have occurred in Rajput families since their last visit. According to Bakhshawar, the Mandhars Jugs, the Mandhars are descendants of Lankamati, son of Rantchandra, who was adopted by his uncle Lachman. The descendants of Iau ruled successively in Garh Gwalior, Sikandarpur, Ajitlilia, Bishapur, Kachchwaghana, and Kanupshahri. Raja Jau left Kanupshahri and came to settle in Korkabotra. At a birth near Jindli his wife bore a son Jindli, who afterwards in S. 891 founded Jindli. His grandson Sudh took Kaithal from the Chandul Rajputs in S. 1093. Sudh begot Bampr, who begot 3 sons Kalo, Kala, and Mairuj. Kalo settled in Kalayat, Kalo in Rajaundh, and Mairuj in Kanthal. Kalo's son Bann Gurkha stormed the fort of Asandh, Sutluj, and Sutran, expelling the Surah Rajputs and settled in Asandh in S. 1111 (the book then proceeds to give a list of the various descendants of Bann Gurkha, and the villages which they founded). By popular tradition the Mandhars hold 300 khuras or villages between Kalayat and Gharananda, many of which are now held by Jais. The *Joga* says nothing about any struggles between the Mandhars and Tanwars, but the latter, as noted in para. 134, were probably pushed back out of part of the Sarnati Nulli by intruding Mandhars.

**The Chauhan
legend.**

144. The Chauhans are all sprung from the original people who settled at Jausla. They all claim descent from Ilana Har Rai and it is probable enough that the oldest line, in which authority descended from Bann Har Rai, has been preserved in its integrity. According to this, 10 generations, equivalent to 475 years, have intervened since the Chauhan conquest, which would fix it at about the time of Bahadur Lodi.

The Chauhan tradition as told by the tribal bard first relates the famous legend of the birth of the Chauhan (one of the 4 agricultural castes) from the Agrahani at Mt. Abu. The story is given at full length in the 3rd chapter of Tod's *Rajasthan*. The conquest of these parts by the Chauhans is said to have been effected by Rana Har Rai. The Rana who had been basking in the Ganges returned through the sacred Kurukshetra then held by Pandirs, who had 4 forts, Hahri, Mandri, Pundeek, and Churangarh. A quarrel arose between Rana Har Rai and the Pandirs. In S. 91 he fixed his head-quarters at Jumla, which he founded, naming it Jumla on account of the number of jujube trees which grew round it. Rana Har Rai conquered Hahri, Pundeek, and Pundrik, but had to fall in his nucleus Dala and Jagar to assist him in storming Churangarh (Chorni), where the Pandirs made a last stand, before they were driven to the east of the Jamma, where they now live. Dala got 48 villages including Sandip, Jagar 12, and Pimpur, the son of a 3rd uncle, 24 villages including Moshra and Pauntha. Rana Har Rai married 2 Rajput wives and 6 wives of inferior tribes, a Rorai, a Jatni, a Jodin, a Kain, and a Gojari. The sons of Amin and Raspare who belong to the Dupia got, are his descendants by the Rorai wife. The descendants of the Jat and Gejje wives appear to have settled to the east of the Jamma. The Rajputs of the Mustafabad parganah in Jagalleri have sprung from the Jogan and Nain areas. The sons by Rajput women founded various villages. Kalia settling in Karnal and Kaura in Umbri. The Chauhans of Pipli, Jagadtri, and Naralugarh are also descended from Rana Har Rai. The Chauhans of Karnal are all of the Bachekias *g.c.* Chauhans will take the daughters of Pandirs for their wives, but they will not give their own girls to Pandirs. They are a fine race, and they are not all bad cultivators, and those who are may not always continue so. The Chauhans of Pundrik, who were described at the first regular settlement as being notorious for overtaxing rubbersies on the Grand Trunk Road, now cultivate their lands with the greatest diligence and success. The Kacca Rajputs are a proud race, whom the rule of the Sikhs and our own have robbled of much of their material power. They are much hampered by unchangeable tribal customs and find it hard to adapt themselves to the altered conditions of life. But it is worth our while to treat them with patience and consideration and to carefully preserve the remains of a local influence, which is still considerable.

The Jats.

145. The Jats are predominantly the agricultural caste of the tract and, with the exception of the Rori and Kambaris, and of the Raisu and Malis who are practically market peddlers, are the best cultivators. A Jat, when naked his entire, will often answer "namadar" as "Jat." They are a fine stalwart race. Mr. Ibbetson measured one at Didearki 6 feet 7 inches high and 42½ inches round the chest. They are notorious for their independence, acknowledging to a less degree than any other caste the authority of their headmen.

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The Jats.

They hold several tribal groups of villages; but they also own parts of villages almost all over the tract save in the Gujrat and Rajput portions. The Kaithal Bhangar and Andawar and the tracts in the same tahsil flooded by the Umla and Ghaggar are almost purely Jat settlements, and they own about 3ths of the Powali Circle, where many of them are Sikhs by religion. They seem to have held parts of the country about Samana in very early days, and, as already noted, that part certainly formed a part of an early Indo-Scythian kingdom. The Jats of the district seem to have come partly from the Bagar, where they were in force 700 years ago. In no case have Jats settled from across the Samaa. The Jats are not mentioned as a prominent caste of the tract in Akbar's time, and probably gained a footing during the breaking up of the Mughal dynasty, when they became an important element in the politics of the time. The Jats of the tract are almost without exception Hindus. Those who have become Mussalmans are called *Mula Jats*, and are only found in two or three villages; and there even are only individual families, generally said to be descended from hostages taken in infamy by the Musalman rulers and circumcised by them. The principal castes are as follows:—

Jagta, sprung from Jagta, a Jat of Jaipur, to whom there is a shrine in Israna at which the whole *thapa* worships. They hold the 12 villages (*barph*) of *thapa* Naukha, and come from Ladas, in Sirsa or Hissar.

Ghanghas, sprung from an ancestor called Badkal, whom they still worship, and who has a shrine in Puthar. They hold the *thapa* of Mandi, and come from Dharamsia near Bhiwani, in the Bagar.

Ghatwal or *Malik*, tracing their origin from Garh Ghazni, and holding Bawana, whether they came from Ahinsa in Gohann. They hold Ugra Kheri and the villages settled from it, and are scantily represented in this district. In the old days of Rajput ascendancy the Rajputs would not allow Jats to cover their heads with a turban, nor to wear any red clothes, nor to put a crown (*mar*) on the heads of their bridegrooms, or a jewel (*nath*) in their women's noses. They also used to levy sovereign rights from virgin brides. Even to this day Rajputs will not allow inferior castes to wear red clothes or ample loin clothes in their villages. The Ghatwals obtained some successes over the Rajputs, especially over the Mandhars of the Hrab, near Deoban and Manglaur, and over those of the Bagar near Kalanjar and Dauli, and removed the abnoxious prohibitions. They then acquired the title of *Malik* (master) and a red turban as their distinguishing mark; and to this day a Jat with a red pagri is most probably a Ghatwal.

Daseal, who hold Korur, Madlunda, Ataola, Mahnoti, and other villages, and came from Rohrak, where they have their head-quarters in the village of Mandauli.

Kuthhor or Gahmar, perhaps the most powerful Jat clan in the tract, holding the 12 villages (*bazar*) of Jaunsi. They came from Mot-Pali in Hissar.

Sandhus worship Kala Mehar or Kala-Pir their ancestor, whose chief shrine is at Thana Satra in Sialkot, the headquarters of the Sandhus. They hold Gagruwa, Khutpura, and other villages; and have come here via Phul Mahaj in Patiala.

Holawat, who hold Bahail and other villages, and came from Dighal in Rohtak. They worship a common ancestor called Sardar Deh.

The chief remaining clans are shown below:—

No.	Clan.	Head-quarters.	Place of origin.
1.	Jain	Zukan and Bikaner	Delhi.
2.	Hari	Mazana and Hal Jatan	Delhi or its neighbourhood, via Rohtak.
3.	Bahawat	Kurbat, Patti	Delhi, via Khuri Kheri in Hissar.
4.	Kharab	Nara	Kathua in Rohtak.
5.	Narwal	Walsar and Kheri Nara	Rohtak.
6.	Nundal	Dahan, As.	Rohtak.
7.	Dehia	As.	Tarzali in Rohtak.
8.	Krota	Shahpur-Kayath (Rohtak), Padio, Barola, and Balana	Gash Ghazni, via Sirsa; Paitu (Pak Paitu); Gashwali, Kawar, in Rohtak; and Koti, near Rohtak.
9.	Kali Ramal		
10.	Phor or Dhaliwal	Dhauwalli	Gash Ghazni, via Dholi, then near Lahore.
11.	Man	Malvi and Ghogripur	Malinda in Malwa, via Gander, Khuri beyond Hissar.
12.	Bahiwal	Ravi, Bhakpura	Blades Oberi, near Ukkaini, via Bhakpura in Krishn.
13.	Baholi	As.	Bighar in Hissar. Many in Kannadhu (Rohtak) and Jind.
14.	Nain	Baholi, Hal Jatan	Kasauli in Jind.
15.	Lather	Phangarch	Chiniot, near Bori in Rohtak, via Rajganj in Sambat.
16.	Kalidai	Riyan	
17.	Dahan	Shahenshahpur	
18.	Dhauwalla	Birjaval	
19.	Kalbar	Dabkuan	Many in Farid in Chittagong of Rohtak.
20.	Eira	Chika	Claim to have been originally Taksali Rajputs from Delhi.
21.	Dhol	Pal	
22.	Mar	Chhatar	

146. The Gujars are a notorious thieving tribe; and, as a rule, their cultivation is of the most slovenly description,¹ though in many of the Khadir and canal villages they have really applied themselves in earnest to agriculture. They have a habit of breaking up far more land than their numbers

(1) There are exceptions. Koorka, the chief Gujar saint in Kalabagh, is very well cultivated.—J.M.D.

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Customs.

The Gujars.

and appliances can properly cultivate; and though their women will go to the well, bring food to the workers in the field, pick cotton, and do other light work, yet they will not wheel or do any really hard labour in the fields like the Jat women. The difference between a Gujar and a Rajput thus was well put by a villager as follows:—“A Rajput will steal ‘your buffalo,’ but he won’t send his father to say he knows where it is and will get it back for Rs. 20, and then keep ‘both the Rs. 20, and the buffalo. The Gujar will.” The local opinion of the Gujar is embodied in the proverb—

<i>Kutta, hills do.</i>	<i>Fih char m ho,</i>
<i>Ranghar, Gujars do;</i>	<i>To khels kicche so.</i>

“The dog and the cat, two; the Ranghar and Gujar, two. If it were not for those four you might sleep with your door open.” Again, “Jitte dakkha Gujar, illa desie maw;” or “wherever you see a Gujar, beat him.” The Gujars are, like the Rajputs, singularly unwilling to admit strangers to property in their villages. They are closely allied with the Rajputs; and their possession of parts of the Ranghar was probably contemporaneous with that of the Sajpalhars, parts of whose conquests, such as Kohard, were given them. But in the Khadir they have succeeded Afghans in comparatively recent times, save in a very few old villages. There is a small group of Gujar villages to the N.-W. of the town of Kairhal, including the important estate of Kuorak. The principal clans are:—

Rawal.—This clan claims descent from a Rajput called Dhurpal from beyond Lahore, who married a daughter of a Gujar called Chokar. It is part of the Ghurkhwasi clan, and takes its specific name from Rau Sowm near Lahore. In one village they say that the ancestor was a Khokhar Rajput, and this is probably the better form of the tradition. They settled in Rau Khera (now Rajapur), but moved thence to Kain and Kohard, where they held a barah of 12 villages; and they also held Bopauli, whence they eventually settled the 27 villages (*salsis*) of the Kharigpur tehsil in the Khadir. They still hold the Khadir villages; but have lost most of those near Kohard.

Chokar.—This clan comes from Jowar tehsil, beyond Mathru, via Bali Kotpur, in Sajpat. They used to hold a chowki (24 villages) with Namunda their head-quarters, and are probably very old inhabitants. They have been to a great degree displaced by Jats.

Chauhan.—This clan claims descent from a Tumwar Rajput by a Gujar mother; and the real scion’s name is said to be Tumwar, Chauhan being only a local appellation. They came from Delhi and settled in Nain and Sutana and the neighbouring villages; and are certainly very old inhabitants, very

possibly having emigrated when expelled from the neighbourhood of Delhi by Sher Shah a few years after the Chachan settlement. They have been largely dispossessed by Rors.

Kaleen.—This clan claims descent from Rama Har Rai, the Chieftain of Janilla, by a Gujar wife. They had given them a part of his territories in the Doab, where they are still in great force, and they hold a little land in the Chahjan Nardak.

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Tribes and
Castes.

The Gujars.

The Rors.

147. No satisfactory information whatever is forthcoming as to the origin of the Rors. Some of them say they were originally Rajputs settled in Sambhal, Mirzapur, but converted their tribe when Parashu Ram persecuted the Kshatriyas, and migrated to Badli, a part of one of the ancient Dehls, and now represented by Badli ka Sarai. The motive of the story is to claim kinship with the Chahans, and the Chachan legend admits the descent of the Rors of Agra, &c., from Ram Har Rai. Others again seem to trace their origin from Badli near Jhajjar. The Rajputs say the Rors were originally Odis, who used to dig the tanks at Thanesar. It seems not at all unlikely that this may be true in substance, for the tribe is curiously localized. At the last Census only 40,731 persons in the Punjab recorded themselves as Rors, of whom 34,094 belonged to Kartal, 4,861 to Ambala, and 1,084 to native states (probably Jindhi). In Ambala they are only found in very numbers close to Thanesar, where they own a number of villages. They are also strong in the Indri Nardak and Pehowa Bangar to the S. and S.-W. of Thanesar. They hold some estates alone or jointly with the Chahans to the North of Hoshiarpur, and a few in the S. of Knithal near the Jindhi border. They now own estates along the Rohtak Canal which held by Gujars. That they originally in many cases, if not in all, held their lands as dependents of the Rajputs admits of little doubt. Socially they rank below Jats. The Rors, while as good cultivators as the Jats, and assisted by their women in the same way, are much more peaceful and less grasping in their habits; and are consequently readily admitted as cultivators where the Jats would be kept at arm's length. They are fine stalwart men. Their caste organization is stronger than that of the higher agricultural tribes, and the panchayat is still powerful.

148. The Tagas, who must be carefully distinguished from the criminal Tagas of these parts, also of Brahminical origin, are a Brahman caste which has abandoned (Sagan koria) the priestly profession and adopted agriculture. They have Brahmins as their family priests. They are all Gaurs; and according to tradition their origin dates from the celebrated sacrifice of snakes by Janamejaya (Gulg. Jalmaja Rishi, also called Raja Agrasen), which is said to have taken place at Saffron in Sindhi. At that time there were no Gaurs in this country, and he summoned many from beyond the sea (sic).

The Tagas.

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Half of them would take no money reward for their services ; upon which he gave them 184 villages in those parts, when they decided to take no further offering in future, and became Tagas. The others took the ordinary offerings, and their descendants are the Gaur Brahmins of these parts. Both retained their division into ten clans, and are hence called *dauqu* Brahmins.

The Hindu Tagas still wear the sacred thread, but Brahmins do not intermarry with them, and will not even eat ordinary bread from their hands. Many of them are now Mosalmans. It must not be supposed that a Brahman now relinquishing the priestly craft and taking to agriculture will become a Taga ; the Tagas were made once for all, and the limits of the tribe cannot now be extended. They are, as already stated, the oldest inhabitants of the tract ; but are now confined to the parts about Hatwala and Barana. The Barana and Sananli Tagas are of clan Bachchus, from Kalwa Jamni in Jindh ; those of Pundri and Harsinghpur of clan Parasir, from the neighbourhood of Pohowra ; those about Hatwala are of the Bharadwaj, Gautam, and Sarola class, and come from Sisra Patan, via the Khadir to the south of the tract. They are, as cultivators, superior to the Rājput, Gaunt, and Brahman ; but fall very far short of Jat and Ror. Their women are strictly secluded.

The Brahmins.

149. Brahmins hold only a small area in the tract, there being but few villages in which they have acquired any considerable share. But they own small plots in very many villages, being, for the most part, land given to family priests (*parshits*) by their clients (*devtas*) as religious offerings (*pun*). They are vile cultivators, being lazy to a degree ; and they carry the grasping and overbearing habits of their caste into their relation as land owners, so that, wherever Brahmins hold land, dispute may be expected. The local proverb goes *Brahmin se burn, Bager se hai*, "As famine from the desert, so comes evil from a Brahman." Most of the Brahmins of the tract are Gaur. There are also a few Saras Brahmins who are said to be far less grasping and quarrelsome than the Gaur, and are certainly less strict in their caste habits, so that Gaur will not eat ordinary bread from their hands. The most common gotis are the Bharadwaj, Bashista, Gautam, Bachchus, Parasir, and Sandlas. The Brahmins have, in almost all cases, followed their clients from their original abodes to the village in which they are now settled.

The Gujrati and Dakaut Brahmins.

150. There are two tribes of Brahmins which, though they own no land, are of special interest ; they are the Gujrati and the Dakaut.

Offerings to Brahmins are divided into *bar* or *graha* for the days of the week, and the two *grahin* for Rahu and Ket, the two demons who cause eclipses by attacking the sun and moon. These two are parts of a demon (*rakshas*), who, when

sitting at dinner with the gods and demons drink of the nectar of the gods instead of the wine of the demons. The sun and moon told of him, and Bhagwan cut him into two parts, of which Rahu, including the stomach and therefore the nectar, is the more worthy. When any body wishes to offer to Brahmins from illness or other cause, he consults a Brahman, who casts his horoscope and directs which offering of the seven *grahas* should be made. The *prashnas* are more commonly offered during an eclipse, that to Rahu being given at the beginning, and that to Ketu at the end of the month. The Gaur Brahmins will not take any black offerings, such as a buffalo or goat, iron, saffron (*tik*) or red, black blankets or clothes, salt, &c., nor oil, second hand clothes, green clothes; nor *antyna*, which is seven grains mixed, with a piece of iron in them; those belonging to the *graha* whose offerings are forbidden to them. An exception, however, is made in favour of a black cow.

The Gujrat or Biao Brahmins, who came from Gujarat in Sind, are in some respects the highest class of all Brahmins: they are always fed first; and they blow a Gaur when they meet him, while they will not eat ordinary bread from his hand. They are fed on the 12th day after death, and the Gaur will not eat on the 13th day, if this has not been done. But they take impure offerings. To them appertain especially the Rahu offerings made at an eclipse. They will not take oil saffron, gnat, or green or dirty clothes; but will take oil clothes if washed, buffaloes, and *antyna*. They also take a special offering to Rahu made by a sick person, who puts gold in a plin, looks at his face in it, and gives it to a Gujrat, or who washes himself against *astava* and makes an offering of the grun. A buffalo which has been possessed by a devil to that degree that he has got on to the top of a house (often no difficult task in a village), or a foal dropped in the mouth of Sutan or Amstado golf in Mugh are given to the Gujrat as being unlucky. No Gaur would take them. Every harvest the Gujrat take a small allowance (*marka*) of grain from the threshing floor, just as does the Gaur.

The Dakauns come from Arakan in the Dakhan. Raja Jarat (Dacartha), father of Haribhadrin, had exorcised the anger of Saturday by worshipping all the other *grahas* but him. Saturday accordingly rained fire on Jarat's city of Ajudhir. Jarat wished to propitiate him, but the Brahmins feared to take the offering for dread of the consequences; so Jarat made from the dirt of his body one Daka Nishi who took the offering, and was the ancestor of the Dakauns by a Buldu woman. The other Brahmins, however, disowned him; so Jarat concealed him by promising that all Brahmins should in future consult his children. The promise has been fulfilled. The Dakauns are prominent as astrologers and soothsayers, and are consulted by every class on all subjects but the date of weddings and the

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The Gujrati and Indian Brahman.

names of children, on which the Gurus advise. They are the scapegoats of the Hindu religion; and their fate is to receive all the unlucky offerings which no other Brahman will take, such as black things and dirty clothes. Especially they take the offerings of Wednesday, Saturday, and Kart. They are so unlucky that no Brahman will accept their offerings, and if they wish to make them, they have to give them to their own master's sons. No Hindu of any caste will eat any sort of food at their hands, and at weddings they sit with the lower castes; though of course they only eat food cooked by a Brahman. In old days they possessed the power of prophecy up to 10-40 A.M.; but this has now failed them. They and the Gujratis are always at enmity, because, as they take many of the same offerings, their interests clash.

The Sayyids.

151. The principal Sayyids are those of Bariat, of the Zedi branch, and descended from Abul Faraj of Wasar in Arnhil, who accompanied Mahmud Ghaznavi, and, settling first at Chhat Banni in Potiala and then at Sambhalheri in Mussooriegar, was the ancestor of the Chatruli Sayyids. The Sayyids of Sainipur and Jal Pahar are Huseni Sayyids, the former from Meshhed the latter from Khojauli, near Khotan. The Faridpur Sayyids are Musavi from Kaswin in Persia. All belong to the Bari Saeedat, who played such an important part in the latter days of the Mughal Empire. There is also a large community of Sayyids at Baras, descended from Shah Alwal from Cash, who assisted Sikandar Lodi at the siege of Kurwar and obtained a grant of part of the village. They have an old MS. family history of some interest. Other well known but decayed communities of Sayyids own Gujra and part of Poonchi in Kapurthala. Timur found the Sayyids in Gujra when he crossed the Ghaggar in 1398 A.D. Mr. Fletcher writes:—

"The Sayyid is emphatically the worst cultivator I know. Lazy, thrifless, and intensely ignorant and conceited, he will n't dig till driven to it by the fear of starvation, and thinks that his baly descent should save his brow from the scowl of swatting. At the best he has no cattle, he has no capital, and he grinds down his tenants to the nimrod. At the worst he is equally poor, dirty and half. He is the worst revenue payer in the district; for light assessment means to him only greater sloth. I have known a Sayyid give one-third of the yield of the grain-field to a man for watching it while it ripened; and if his tenants' rent is Rs 10, he is always glad to accept Rs 2 at the beginning of the season in full payment."

Miscellaneous and small tribes.

152. *Gaddis*.—The Gaddis are Mosalmans. They are mostly of the Sarojs' clan, and come from the Bular or from the Ambala district. They own villages in the Indri Khadis.

Kurahis, Rais, and Malis.—The Kurahis are excellent cultivators. Rais and Malis, who practice Mackai gardening, are chiefly settled in the towns, where they cultivate as tenants. But the Rais also own villages in the Powadh tract to the north of the Ghaggar. They are Mosalmans.

Bairagis.—The Nimbawat Bairagis of Gali, Wati, and Harsinghpur, the Rauni Nauni Bairagis of Sita Mai and Bhandar, and the Radha Malubhi Bairagis of Bharana and Matwani own a good deal of land. Besides the monks (*suthus*) of the monasteries (*sekhuls*) whose property descends to their disciples (*chela*), who are called their *muni* children, many of the Bairagis have married and become *Ghristi* and have descendants by procreation, or *bundi* children, thus forming a new caste. This latter class is drawn very largely from Jats. The monastic communities are powerful, are exceedingly well conducted, often very wealthy, and exercise a great deal of hospitality.

Sheikhs.—Of Sheikhs proper (Arabs), the only representatives in the tract are the Kurechis, Ameeris, and Muhajirin (Makhdumzada) of Panipat (see Chapter VI). But every low caste converts to Islam calls himself a Sheikh, and such Sheikhs are known in the district as *sidrs*. The Ranghars of the Powndi, who claim to be Rajputs, but practice leprosy, are often called Sheikhs. But the most remarkable Sheikhs are a menial caste of that name, which is represented in very many villages by one or two small families, and from which the village watchmen have been almost exclusively drawn from time immemorial. The people say that it was the policy of the old Emperors to have some Muslimzadas in every village, and that they therefore appointed and settled these people; and the story is not improbable.

Jogis.—There is a caste called Jogi, generally Hindu, which is one of the lowest of all castes, and receives the offerings made to the impure gods. They are omnivorous, and practice witchcraft and divination. They must be carefully distinguished from the Kauphala Jogis, or monks of Shiv, who are a sect of religious devotees and not a caste at all, and in fact do not marry.

Menial Castes.—The menial castes (*banias*) only hold land in the rarest possible instance. Their place in the village community is fully described in the next section. They are principally distinguished by their elaborate caste organisation, which is so complete that their disputes seldom come into our Courts.

SECTION E.—VILLAGE COMMUNITIES AND TENURES.

153. The proprietary body proper, which forms the nucleus round which the subsidiary parts of the community are grouped, includes all those who have rights of ownership in the common land of the village. It is seldom wholly confined to one single family, strangers having almost always obtained admission in some way or other of the ways indicated in para 136; and very often the community will consist of two distinct tribes or clans of the same tribe, holding more or less equal shares in the village. The community, however constituted,

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is almost always sub-divided into wards or *patti*, each *patti* embracing a branch of the family descended from some common ancestor, and perhaps strangers settled by that branch, if it is sufficiently numerous to constitute a separate *patti* of themselves. The word *patti* is also the local term for a lot (*panchayat*), to cast lots, and is almost the only relic still remaining of the old custom of periodical re-distribution of land which seems to have once been common in Aryan communities.¹ These *pattis* are very commonly again sub-divided into *takhsis*,² which are also based upon community of descent. The village is represented by a certain number of headmen, or *lalikars*, generally two or more for each *patti* or *takhsis*, according to size; and these again are assisted by *khulatas*, a kind of assistant headmen who are not officially recognized. The headman has a considerable discretion in the choice of his *khulatas*, but the latter must be so chosen as fairly to represent the various genealogical branches of the community. The headmen and *khulatas*, together with such men as have gained influence by age or ability, constitute the *patti* or village council—an institution which, though no longer recognized by us, still exercises considerable authority, is generally appealed to in the first instance, and successfully settles a great number of disputes.

Village officers.

154. The following table shows the number of *mullahs*, *panchayat*, chief headmen, and headmen in the several *tahsils* of the district:—

Tahsil.	Mullahs.	Panchayat.	Chief headmen.	Village headmen.
Panjpat	7	...	103	719
Karnal	14	7	41	953
Kallial	15	31	—	816
Total	36	15	143	3,633

The *tahsils* may be classified as follows according to prevailing tribes:—

Tahsil.	Gurkhan Rajput.	Mughal Rajput.	Chauhan Rajput.	Jat.	Sindhi.	Rai.	Kanthi.	Gill.	Miscellane-
Panjpat	1	1	1	4	2	2	1	1	1
Karnal	1	2	1	4	1	1	1	1	1
Kallial	1	4	1	45	4	1	—	—	1
Total	5	6	1	59	3	4	1	1	1

(1) The holdings in the hilly parts of some villages are still periodically redistributed; but this is a good deal because the wind affects the boundaries and makes them difficult to trace. The uncertainty of the yield, moreover, is one of the causes of the redistribution, according to the people themselves.

(2) In Kallial the division is into *panchayat* and *takhsis*.

Each *sardar* is remunerated by an allowance of 1 per cent. deducted from the land revenue of his circle. In *talukas* Panipat and *panchayat* Karnal chief headmen were appointed at Mr. Ribbenson's Settlement in large villages, where the headmen were numerous; they are elected by the voters of the proprietary body subject to the sanction of the Deputy Commissioner. They represent the body of headmen, and receive Government orders in the first instance, though in respect of the collection of revenue they possess no special authority or responsibility. In *panchayat* Indri and *taluk* Raithal the *old lambardi* system has not been introduced, but cash issues have been given to a few influential headmen, the sum allowed for this purpose being 1 per cent. of the land revenue. Most of these sums are of the value of Rs. 50 per annum. After annexation small cash issues were given for life to certain headmen in Raithal. All of these have lapsed or been absorbed in the new *sardari* and *panchayat* rates. The head-quarters of the units, together with the prevailing tribes in each, are shown below:—

TALUK.	VILL.	No. of villages.	Annual land re- venue.	Predominant tribe.
Panipat	Panipat	57	65,287	Jata.
	Khejelpur	11	17,729	Gujara.
	Jasrota	91	71,072	Jata.
	Mundha	29	52,160	Do.
	Kishan	15	32,344	Bors.
	Bhati	10	20,000	Jata.
	Kaleri	17	13,432	Gujara.
Taluk Karnal	Jundla	29	14,730	Chandian Rajputs.
	Kasaul	28	24,740	Jata.
	Chaurawala	35	31,221	Manjhar Rajputs.
	Bawali	13	22,014	Jata.
	Dashera	22	21,913	Manjhar Rajputs.
	Rana	27	13,223	Chandian Rajputs.
	Nagla Magra	21	13,813	Manjhar Rajputs.
	Barapura	22	20,320	Chandian Rajputs.
	Maudha	24	22,469	Do.
	Pathora	24	16,780	Jata.
	Dhammara	17	11,273	Do.
	Shorapuri Tappa	29	16,392	Do.
	Khers	14	10,873	Kantobha.
	Jorawatta	14	8,143	Gaddia.
	Jarsain	16	6,724	Barw.
	Amin	20	10,648	Do.

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Village Com- munities and Tenures.	Table.	Estate.	No. of villages.	Annual land re- venue.	Possessing tribe.
Kaithal	—	Kaithal	23	20,157	Jata.
		Kasark	24	12,000	Gujher.
		Ustari	20	12,000	Chauhan Rajput.
		Gangotra	17	10,120	Tamang Rajput.
		Aasandh	27	12,070	Mandhar Rajput.
		Dajanwali	10	9,250	Do.
		Bwan	20	20,140	Do.
		Siguan	23	9,465	Jata.
		Fai	21	17,750	Do.
		Chatar	22	20,461	Do.
		Bhangal	23	21,250	Do.
		Dabbi	21	11,250	Do.
		Span	24	9,031	Do.
		Paharawa	20	10,600	Rors.
		Gula	41	17,850	Miscellaneous.

Manza Kunjpani in Lodri and 34 estates in Kaithal belonging to the Arnauli and Siddhuwal jagirs are excluded from the sukhuri system.

Village headmen.

165. It appears from the old records of Panipat and parganas Karnal that in former days there was one headman for each pargan. They had great authority, the distribution of the revenue being wholly in the hands of the *shopa* and village councils, of which they formed the heads. Their office was hereditary; though fitness was an essential, and the next heir would be passed over, if incapable, in favour of another member of the same family. When we acquired the tract the arrangement was perfectly continued for many years, as no record of individual rights or liabilities existed. But unfortunately the hereditary nature of the officer, and the authority which should attach to it, were lost sight of. All the leading men of the village were admitted to sign the engagement for the revenue, and all that signed (it was called headmen). The allowance (*panchayat*), which is given to those men, took the form of a deduction from the last instalment of revenue if paid punctually, and was divided by all the engagery; in fact, it is even said that "all the owners shared it proportionally, and that it practically took the form of a mere abatement of revenue in which the whole community had a common interest."

In 1830 a field-to-field record had been introduced, and an attempt was made to limit the number of headmen, it being ruled that the people were to elect fresh headmen every year, who alone were to enjoy the allowance. The Collector of the time regretted the change. He wrote in 1831:—

"The great objection to the new arrangement is that it is calculated to destroy the strong and honourable feeling of mutual good-will and attachment which formerly characterized the intercourse of the headmen or sharers, with the other classes of the community,

The support and assistance which the elders had it in their power to afford to the lesser cultivators ensured their respect and confidence, and consequently the peace and good order of the society. The power they possessed was considerable; and so far as the interests of their own village were concerned, was scarcely ever abused."

The words in italics show the light in which these innumerable headmen were then looked upon. The other members of the proprietary body were called *rejat* or cultivators; and we find the Supreme Government asking for an explanation of the fact that some of the reports submitted seemed to imply that they too possessed a proprietary interest in the land.

The plan of having a new election of headmen does not seem to have been, in its integrity, carried into effect; but up to the settlement of 1842 the number of headmen was still inordinately excessive. We find a village paying Rs. 14,000 with 75 headmen, another paying Rs. 3,500 with 21, a third paying Rs. 2,500 with 23, and so on. In 1839 the Collector wrote that the master had been "a continual festal for years." At the settlement of 1842 the Settlement Officer was directed to reduce the numbers largely, taking as a general standard one headman for every Rs. 1,000 of revenue. He found that among the crowd of so-called headmen there were generally some who had enjoyed this office, either personally or through their ancestors, for a considerable period. These he selected; and, as far as possible, gave one headman at least to each sub-division of a village.

In Kaithal the number of headmen recognized in the first Settlement was excessive. In the Settlement of 1856 the evil was met in many villages by the somewhat clumsy device of confirming existing holders in their appointments for life, and providing that the first one or two vacancies should not be filled up. Thus, if the most influential headman in an estate died first, his heir had no claim. The rule was carried out, but the other headmen often continued to pay a share of the pachisi to the heir, who in ordinary course would have succeeded, for long after his position had ceased to be officially recognized. Many claims for the revival of appointments which had lapsed were presented during the recent settlement, but they were rejected.

At present the distribution is very unequal; villages with eight or ten headmen are not uncommon; and as each man often pays in only two to three hundred rupees of revenue, the allowance of 5 per cent. is, in such cases, quite insufficient to give any standing to the office. As a rule either the headmen or the patwari, or both together, have the accounts of the community very much in their own hands. The headmen have, therefore, great power in numbers, but our system has to a large extent deprived them of that willfulness and irresponsibility which is the best security for a proper exercise of such power. That serious cases of embezzlement are so rare is a proof of the good faith which governs the mass of the people in their dealings.

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Village headmen.

with one another. The village headmen enjoy certain privileges by virtue of their office. Thus they and their heirs-apparent are exempt from the duties of village watch and ward (see para 191). A *chowki* is often attached to each headman as a personal attendant without payment further than his mid-day meal; and the body of *chowki* generally have to give a day's work in the fields of each, though, as they expect to be feasted on the occasion, the service is more of an honour than a profit to the recipient. The right of succession runs in the oldest male line; and the right of representation is universally recognized, the deceased older son's son taking precedence of the living younger son, though the former may be a minor, and a substitute may have to be appointed to do his work.

Village and proprie-
tory tenures.

166. Table No. XV shows the number of villages held in each of the main forms of tenure, with the number of proprietors or shareholders and the gross area included under each class, as returned in Table No. XI of the annual Revenue Report for 1888-89. But the accuracy of some of the figures is doubtful. It is in many cases impossible to class a village satisfactorily under any one of the ordinarily recognized tenures, as will appear from the following description by Mr. Ishant Singh of the tenures of that portion of the district settled by him:—

"The villages of the tract (between Panipat and Jumna-Kurnool) have, for the purposes of settlement, been classified as follows:—61 held wholly in common by the body of owners (*āmildars*); 22 divided among the several branches of the community according to ancestral shares (*pattidars*); and 250 held in sevaralty by the individual householders, the holding of each being quite independent of any fixed scale (*shārdars*). But this classification is practically meaningless. Of the 61 *āmildar* villages, 41 are held by the Skinner, the Mandals, or purchasers from them; 9 are small uninhabited plots of land belonging to larger villages, but having separate boundaries of their own; and 5 are on the river edge, where the uncertainty of the river action renders the joint ownership the only one which can ensure individual proprietors against sudden loss or utter ruin. Of the 22 *pattidars* villages, 7 are small uninhabited plots of land as above, and 4 are subject to river action; while in most of the remainder the property of individual householders is regulated by proportion and not by shares, though the several male branches of the community have divided the village by shares. On the other hand, in the 250 *shārdars* villages, though the common land has not yet been divided according to shares, yet the interest of the several branches of the community in that land is strictly regulated by ancestral shares in a very large number, if not in a majority, of instances. The fact is that a village may have four or five *patti* with two or three *shārdas* in each; there may be common land of the village, of such *patti*, of such *shārda*, and of two or more *shārdas* and *patti* jointly, the scale of separate interests in each varying in its nature from one to another, and each single family holding by possession and not according to shares; so that it is, as a rule, impossible to describe the tenure of a village in a word, or to classify it satisfactorily under the recognized headings."

At the recent settlement of Indri and Kaithal the estates were cleared as follows:—

Towers	Indri.	Kaithal.	Chapter, III, B.
			Village Com. munities and Tenures.
Bamuniazi	76	75	Village and propi etary tenures.
Pattiala	6	6	
Khalsa & Kara, or mixed partitions and bhangas.	149	312	
Total	261	428	

157. Until the recent settlement there were 55 leased villages, 6 in Indri and 52 in Kaithal. Two of the Indri leases were made by Mr. Wynnard under the rules for the lease of waste lands contained in Notification No. 5705 of the Government of the North-Western Provinces, dated 28th November 1848. Most of the other leases were arranged by Captain Larkins, when he settled the Thanesar district in 1855 and 1856.

Leased estates in
Indri and Kaithal

158. When Kaithal lapsed in 1843 we took over a country occupied by settled communities, some of which had been strong enough to offer a very vigorous resistance to the oppositions of the Sikhs. But cultivation had declined in the evil days that preceded our rule. It was found that there were some patches of waste land kept as bare or grass pastures by the late Sikh ruler, and that there were also a number of deserted sites, which tradition said had once been occupied by village communities. The owners had been driven from their homes by one or other of the numerous famines which desolated Kaithal and the neighbouring States in the last quarter of the 18th and the first quarter of the 19th century, or they had left in the times of confusion which followed upon the decay of the Mughal Empire. When order was restored there was no lack of claimants to the ownership of the deserted sites. In many cases the founders of the large villages in the neighbourhood asserted that they were the *banians*. They doubtless declared with more or less truth that the smaller estates had been founded by colonists from the older villages, and that the colonists, when unable to protect themselves from oppression, had returned to the *zamindar* parent community. Later on Captain Larkins formed new estates by demarcating part of the extensive waste which he found to exist in many villages. The Kaithal leases therefore were often unencumbered by previous rights, which were acknowledged by the payment of a nominal ownership fee to the *zamindar*.

Colonies of banians

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Village Communities and Tenures.

Leases made at the waste summary settlement in 1843.

whom the *biswaleri* was admitted to have originally belonged.

159. The cessation of internal disorder and border warfare which followed on the introduction of our rule gave a sudden impulse to agriculture, many *remidars* came back to their homes, and in 1843 Major Lawrence was able to locate 39 *thar* or abandoned villages, 82 were engaged for by the *remidars* within whose original boundaries the deserted sites were situated, and 34 remained to be disposed of after time had been given to the old cultivators to return (Lawrence's Settlement Report, page 40). No details can be given as to the arrangements made by Major Lawrence. Capt. Captain Abbott describes the general results of his action as follows:—"The terms of the leases were so light, and the parties being generally bound in no penalty, very low (of the estates) were populated, greater profits were to be derived from the sale of grass, wood, and grazing privileges." As regards uncultivated lands generally, Major Lawrence explained in the committee that "the waste lands were their own to do what they pleased with for the next three years, (the period of his summary settlement), adding that at the expiration of that time they would only be entitled to areas of waste equalling double the extent of their cultivation."

Leases made at Capt. Abbott's Settlement in 1847.

160. At the regular settlement made in 1847 by Capt. Abbott 64 sites were located out. In some cases two neighbouring sites were leased to the same persons, so that there were not really 64 estates. Fifty-two of the leased sites were in the dry uplands where well irrigation is unprofitable. Captain Abbott stipulated for the breaking up of a certain proportion of the waste, the sinking of a well or the digging of a tank, the locating of a certain number of ploughs, and the building of a certain number of houses. The leases were often made to the *remidars* of large neighbouring villages with which the sites had been measured at the summary settlement. The leases were acknowledged as *biswaderi*, but it was provided that if they failed to fulfil the conditions of the lease they should lose the *biswaderi*, and also pay a penalty of three times the sum assessed. Captain Abbott's view of the rights of Government and of the effect of the action he took was expressed as follows:—"I have endeavoured as much as possible to restore the sites to former occupants, but very few such existed. The lands were waste, overrun with jungle, the peculiar property of Government, to dispose of to the best advantage. Proclamations for their disposal were issued, and, after the disposal of any claims that might be made, the more eligible offers were accepted. Thus the *biswaderi* of these sites has been disposed of under certain conditions, failing fulfilment of which it will, at the end of three years, be available to the Government to dispose of in any other way." He expected that in consequence of the arrangements he had made 50 new estates would be

founded within three years, and that at the termination of the settlement there would be strong villages. Those sanguine expectations were, however, disappointed. The main defect in Captain Abbott's scheme was the extremely short time given for the fulfilment of the terms. The condition of sinking a well was also a very unwise one to impose on the founder of a new village in this upland tract, where water is often above 100 feet from the surface and wells are not used for irrigation. They are extremely costly, and take 10 or 15 years to sink. The work is begun in a good year, abandoned if bad seasons follow, and taken in hand again when times improve. The large proportion of new cultivation demanded by Captain Abbott could scarcely be effected in three years, and there was every temptation to rely on the profits of cattle rearing and proceeds of grazing dues, from which a fair income was desirable.

161. It is not, therefore, strange that in the great majority of cases Captain Larkins, who re-settled the district in 1855, found that the conditions of the leases were unfulfilled. It was first proposed to sell the leased lands outright; but the result of the single sale that was carried out was not encouraging, and Mr. Edmonstone, Commissioner of the Cis-Satlej States, proposed to the Board of Administration that the lands should be again leased. The Board, while expressing much scepticism as to the possibility of converting a tract intended by nature for cattle rearing into a well-cultivated country unless a canal could be brought through it, acquiesced generally in Mr. Edmonstone's proposal. (Secretary to the Board of Administration to the Commissioner, Cis-Satlej States, No. 1629, dated 28th May 1852). In only a few cases were Captain Abbott's lessees held to have earned a proprietary title; more than one-third of the leases were cancelled and the lands resold with new applicants. But in many cases, where some thing had been done to improve the land, Captain Larkins revised the original conditions and granted fresh leases to the old farmers. The chief alteration was the striking out in Baugur leases of the condition that the lessee should sink a well. The leases were given five years within which to fulfil the terms of the new leases. Many of Captain Abbott's leases had been made to the inhabitants of the villages in which the deserted sites had been included in the first summary settlement. In these cases Captain Larkins held that defaulting lessees "had forfeited all claim beyond the bishandari allowance of 5 per cent. on the Government demand, where they have been recorded as proprietors." Besides dealing with the leases made by Captain Abbott, Captain Larkins himself separated all from the areas of villages having excessive waste 21 new estates. A malkana of 5 per cent. on the revenue was declared to be payable to the original proprietors. His action in demarcating these estates was based on Regulation VII of 1822, and it is clear that his authority was derived from the 8th Section, and the malkana was fixed, to quote the words of that section, "in lieu and bar

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Leases made at
Captain Abbott's
settlement in 1855.

Leases made at Captain Larkins' settle-
ment in 1855.

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Leases made at Captain Larkins' time in 1822.

Conditions of leases granted by Captain Larkins.

"of all claims to or in waste lands so granted." He intended that a leasee, who fulfilled the conditions of the lease, should be regarded, or, if already recorded as owner, construed as proprietor of the village which he founded. Even if the lessee was not the recorded proprietor, he was liable, if he failed to carry out the conditions on which the estate was leased to him to forfeit all title in it beyond the right to receive an allowance of 5 per cent. on the revenue. Extra waste was not always formed into separate estates. In the cases of some villages with enormous areas of jungle Captain Larkins contented himself with taking written engagements from the proprietors to the effect that, "it would be in the power of the District authorities (under Regulation VII of 1822) at any time, during the terms of the present settlement, in estates where the waste exceeds twice the area under the cultivation, to mark it off separately for the formation of a new mudid in the event of any parties coming forward to take up the lease."

162. Captain Larkins' policy in the high upland tract was only to require the cultivation of a certain proportion, usually one-third or one-fourth, of the assessable area, and the location of a certain number of ploughs. He considered it absurd to bind a house to sink a well, seeing that the cossidars in many old villages depended on their tanks for drinking water, and, wherever wells existed, preferred to use tanks because of the trouble involved in drawing water from a depth of above 150 feet. He knew besides that, if cultivators wished at all, they would assuredly either sink a well or dig a tank. The stipulation as to houses appeared to him superfluous, as the location of ploughs implied the presence of cultivators. He fixed progressive assessments, the initial sum being two-thirds of the average annual income found to be derived from the sale of grass and of grazing dues. The final demand was not allowed to exceed the amount brought out by the application of the progress rates to the area required in the lease to be cultivated. In new leases ten years were allowed for the fulfilment of the terms, but it was stipulated that one-half of them should be carried out within five years.

In 1833, soon after the abolition of the Thanesar District and the transfer of Kairthal to Karnal, Mian Lal, Extra Assistant Commissioner of Kairthal, carried out an enquiry as

to the extent to which the lessees had fulfilled the conditions of their leases. He appears to have found that in scarcely a single case had the lessee succeeded in carrying out within the first five years all that he was required to do within that period. The Deputy Commissioner of Karnal cancelled many of the leases, but the Commissioner subsequently held that the cancellation of a lease merely because the farmer had failed to bring the required extent of land under the plough would not be justifiable,

as he considered that the terms imposed were impossible of fulfilment. The lessors were to continue in possession and their claims could be considered at settlement.

163. A full enquiry into all these leases was made during

Settlement Officer's No. 533, dated 1st December 1888, reporting on 28 areas.

Settlement Officer's No. 414, dated 23rd April 1893, reporting on Panj Nihars.

Settlement Officer's No. 381, dated 22nd April 1893, reporting on Bir Bal Tikana.

Punjab Government's No. 224, dated 2nd August 1893, passing orders on 27 areas.

Punjab Government's No. 184, dated 2nd August 1893, passing orders on Bir Bal Tikana.

description. The so-called lessees were owners of the land, but had in most cases been bound over to cultivate a certain portion of their waste within a limited period. If they failed to do so Government had the power to cancel their rights of ownership and form new estates out of the excess waste. Adding to the area of these estates a few plots in ordinary leased villages which were recorded as the property of private persons at the last settlement, he held that 10,304 acres were already owned by zamindars, and he proposed that Government should admit that their proprietary rights were subject to no special conditions. He considered that in such cases tenants who made claims to occupancy rights should be left to establish them by regular suits. As regards the remaining estates enquiry showed that in hardly a single instance had the conditions been fulfilled within the period fixed in the original lease. But Mr. Louis proposed that Government should deal liberally with the lessees and look rather to the present state of villages than to the result of the enquiry made by Mithna Lal in 1863. Where the terms were shown now to have been fulfilled, and even, in some cases, where they had not been literally fulfilled, but substantial progress had been made, he advised Government to admit the lessees as owners subject to certain conditions stated below. Where little or nothing had been done he proposed to cancel the lease, and to resume the estate. He urged that advantage should be taken of the fact that the conditions were not fulfilled in time—

- (a) to protect the rights of old cultivators;
- (b) to secure the reservation of a considerable area as village pastures;

(c) to put certain restraints on the power of alienation.

A register containing detailed proposals as to the grant of ownership and occupancy right, &c., in each estate was submitted, and is now in the district office. The gist of the proposals was that Government should resume 10,810 acres, grant ownership in 15,620 acres, and give a fresh lease of 1,686 acres. In many cases the recorded leases were merely representa-

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Treatment of leased estates at the recent settlement.

tives of a larger body of their caste follows, or had, after obtaining the leases, called in cultivators under engagements, express or implied, to give them a share in the ownership, if ultimately confirmed. Hence many persons, other than the recorded lessors, were held to be owners. This was often, but not always, done by consent. Many old cultivators, though not entitled to a share in the proprietorship, appeared to deserve protection from extinction and future enhancement of rent. They had, in most cases paid exactly like owners, and shared all their other burdens and privileges. In such cases Mr. Douie proposed to fix their rents in perpetuity at revenue, cesses, and mafsa. When rent was paid by division of crop the old rates were as a rule continued. The Settlement Officer proposed to reserve 7,750 acres of the land made over in ownership to the lessees as common village pastures, providing that any one encroaching on such land should pay a fine of Rs. 100 to Government and be ejected. This plan met generally with the approval of the people, and did by order what they would do themselves if they had not lost the power of combination. The management of these reserves was to be left entirely in the hands of the owners.

The restrictions on alienations which were suggested need not be detailed, as Government declined to sanction them. In other respects the proposals were approved of, though final orders on one or two points have yet to be issued. Where mafsa has hitherto been given by the lessors to the owners of the estates from which the leased areas were originally separated, it will continue to be paid, but the recipients are not recognised in the revenue records as *ala mafsa*, and they will receive their mafsa, not direct from the new owners, but through the *tukai*.

*Estate resumed
by Government.*

104. The estates which Government has now taken over are Bedalwa, Dhimlauri, Udhaisarhi, and one-third of Motia in Indri, and Thek Majibulla, Koli-Khena, one-fourth of Khanpur, Rawanhera, Thek Bahiri, Basi, Kalalpur, and Khanda Kheri in Kalthal. The last five will probably become irrigable from the Sirsa Canal and Rajbahr No. 1; and four of them should become very valuable. The Indri estates form two solid blocks of grazing land. Khanpur is close to the town of Kalthal and contains good pasture. Koli Khena is of little use for grazing, but contains fine timber (*kikar*), which would be valuable if there were any market for it. The land is unsuited for cultivation. Thek Majibulla is in the Sarauti and liable to flooding. Much of the land is bad, and the grasses are coarse. In addition to the above Government owns in Kalthal 453 acres in Thek Ruheria, which is kept as a grazing rabi.

Matters regarding property acquired under British rule.

105. A discussion of the changes that have occurred in the rights regarding property in land and the rights of cultivators under our rule will be found in paragraphs 240—41 of Mr. Elphinston's Settlement Report. He concludes by saying:—

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munity and
Tenures.

*These respecting
property, modified
under British rule.*

"The present state of affairs, then, is this. The fractional shares of the whole village and of the chief sub-divisions of the village, to which each main branch of the community is entitled, are often still recorded in the papers, and very generally measure their interest in the common land. But the internal distribution of property in the common land between the constituent households of each main branch is always regulated by the areas held in severality. Even when the holdings in severalty regulate the primary division of the common land also, which is most often the case in villages held by two or more different tribes, who can, of course, have no ancestral scale of rights, the recognised shares which used to measure the rights of each are very often recorded in the papers of last Settlement, though it is at the same time recorded that they are no longer acted on. And instances are by no means uncommon where the wants of a village, in the face of a District record that their rights are proportional to their holdings in severalty, have yet, at division, reverted by consent to the old shares, although the revision involved a loss to one or other of them."

366. The land owned in severalty by individual families is not only inherited, but is also invariably divided on the occasion of separation of property in strict accordance with ancestral shares. The members of the family often divide the land among themselves for convenience of cultivation more in accordance with the appliances at the disposal of each than with the proprietary shares, just as the common land is allotted to the various families on a similar scale. But this division is not a division of property, and the right of the members to a re-distribution according to shares, with due regard to the preferential right of each to the land he has cultivated, so long as it does not exceed his share, is always recognized by the people, though sometimes (not often) contested by the individuals concerned.

The rules of inheritance are as follows:—No practical distinction whatever is made between divided and undivided families; in fact, the terms are hardly ever used.¹ First the sons and sons' sons by stirpes how low soever succeed, sons representing their dead fathers. In the absence of them, the widow takes an interest strictly limited to a life tenancy. If there is no widow, or after her death, the brothers and brothers' sons how low soever inherit by stirpes with representation. In their absence the mother takes a life interest.² After these the inheritance goes to the nearest branch in the male line, this division

(1) Mr. Libberson, from whom the abstract in this and the next four paragraphs is taken, writes:—"I need hardly say that all my remarks refer solely to the Hindu nation, and not to Rangoon and the like. They also do not apply to the original Moorsians, who usually follow the Mahomedan Law. Moreover, in these matters I only give the general customs. Particular exceptions, though less numerous than might be expected, will be found recorded in the record of customs customs." I have added some notes. See also the volume relating to purusha Lekhi and Laksh Kaitkal in the series devoted to the Customary Law of the Punjab.—J. M. D.

(2) There is some disposition among certain tribes to say that the mother should succeed along with the son's widow or even along with the widow. It is founded on the feeling that the older woman would be less likely to mismanage, and finally attempt to part with, the land.—J. M. D.

*The family, rules
governing the trans-
fer of property.*

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The Family. Rules governing the division of property.

at each stage being by stripes. Daughters, if unmarried, have a claim to maintenance only.¹⁾ If property is separately acquired by a son in a divided family during his father's life, the father inherits before the brother; but separation of interest before the father's death is not allowed, and no separate property can be acquired by the individuals of an undivided family. The father may divide the land for convenience of cultivation; but on his death, or the birth of another son, it will be open to re-distribution.

In attesting the record of common customs the whole country-side has declared that, where there are three sons by one wife and one by another, all four share equally (*paganad*). But there have undoubtedly occurred instances in certain families, especially among the Rajputs of the Nardak, where the division has been by wives (*chandannad*). Where *chandannad* is the rule of division, the full brothers and their representatives allotted to the exclusion of the half-blood; otherwise there is no distinction between the two.²⁾ All sons, whether by original marriage or re-marriage (*karsan*), are on an equal footing; no priority is attachable to the sons of any particular wife. But if a Rajput Mussulman should marry a woman of another caste, as they sometimes do, especially in the cities, the sons do not inherit at all, the property going strictly in the tribe.

A son born less than seven months after the marriage is consummated, even though begotten by the husband, and one born more than ten months after death or departure of the husband, is illegitimate. An illegitimate son cannot be legitimised, nor can he inherit.³⁾ A son by a former husband brought with her by a woman on her re-marriage, who is called *yalat* (*yal* together with) if born, and *karsan* if unborn at the time of the re-marriage, inherits as the son of his begetter. A member of the family who becomes a monk (*sadhu*) loses his inheritance; but does not do so merely by becoming a beggar (*faqir*).⁴⁾ But the disciples of monks inherit from them as their sons. The life-interest of widows subsists so long as one is alive, and is shared by all equally. But a Mussulman widow of another caste has no interest; and a widow who re-marries loses all rights, even if she marries the husband's brother. Pregnancy also destroys their rights; but not were reported un-

(1) It may be taken as a rule that the wife of the wife is disbarred from inheritance under all circumstances, as long as there is any male offspring however distant.—J.M.D.

(2) I think there is evidence to show that *chandannad* was more common formerly than it is now. It is found to much extent among the Sikhs, who come originally from the Punjab.—J.M.D.

(3) The answer you are likely to get in questions about illegitimacy is that no case of an illegitimate son being born in the tribe was ever heard of, and illicit relations between men and unmarried women of the same tribe and yet being regarded as *lava*, are probably very rare.—J.M.D.

(4) Or *Chalakar*.—J.M.D.

(5) There is no doubt that a man, who becomes a Hindu, entirely loses his rights of property. The rule is less positive as regards Mussulmen fairs.—J.M.D.

clarity. Their rights are not contingent upon their living in the husband's village. Woman's separate property (*stridhā*) is unknown. It is remarkable how wholly, in the minds of the people, the family is represented by its head. At the Begalar Settlement the name of the head only was recorded as a rule; and the people still think that it is quite sufficient to send their heads to represent them in court or elsewhere. This feeling, however, is weaker among the Jats than among other tribes; and they have become notorious in consequence.

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The family. Rules governing the distribution of property.

167. The great object of these rules is to preserve the family property to the agnates. A man without a son, or whom only son has changed his religion, can always adopt (*yadha, padhna*); and a widow left *sāuse* can adopt at will, except among the Jats, where, unless the husband has selected the boy, the consent of the heirs is necessary.¹⁾ But the boy to be adopted must be a brother's son, or if there are none available, a cousin in the male line; and no relation in an older degree than the adopter can be adopted. No cognate can in any circumstances be adopted except by consent of the next heirs, nor can an only child, except among the Rajputs. The Bundhunas, however, can adopt sisters' and daughters' sons. There is no restriction as to age, nor as to inheritance with the sacred thread, nor that the boy shall be the youngest of the family. The adopted son takes as a real son with children born after his adoption. If the division is by wife, he takes his share first *par cepta* of all the sons, and the remainder divides by *ekadhanas*. He loses all rights in his original family; and, even if his original brothers should die, can only inherit as the son of his adoptive father. A second adoption can only take place when the boy first adopted has died, and can be made by any widow who could have adopted in the first instance. The ceremony of adoption is as follows:—The man seats the boy in his lap (*gad*), feeds him with sweetmeat in the presence of the brotherhood, and declares that he has adopted him. If a woman adopt, she gives him her nipple to suck instead of sweetmeat. Sweetmeats are in every case distributed to the brotherhood.

168. There is a custom called *gaur jāra*, which consists in a widow men's giving his daughter's husband (*jāra*) in his house as his heir, when he and his son after him inherit on the death of the father without son: though if he die *sāuse* the property reverts to the original family, and not to his own agnates. He retains his rights in theory in his original family, though he often abandons them in practice. There is no doubt

Adoption.

The Gaurjāra.

(1) Adoption is I believe, very rare. There is much hesitation in admitting the right of a widow to adopt. In assessing the Revenue the Rors and Dugars of Kahlur denied the right of the widow to adopt under any circumstances, but admitted that a man might adopt a son from among his collateral heirs. But they stated that they had never heard of a case of adoption in their tribes, while Sialla and Nagarkhan Rajputs asserted that adoptions were very rare. Civil courts should be very careful before they apply the maxims of Hindu law to disputed cases of adoption in Jats and Kahlur.—J.M.H.

Chapter III. Z.

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Tenures.

The Ghar-Jawali.

*Gifts, and trans-
fers for consider-
ation.*

whatever that this custom did obtain, for many present land-owners have obtained their property in this way. But the feeling is strongly against it. The Jats, Rors, and Kambahs strenuously deny the right. The Rajputs and Gujars say that the son-in-law does not inherit. The Gujars and Bairagis admit that the custom occurs. The Brahmins say that the son-in-law cannot inherit, but his son, if he has one, can. Perhaps the real state of the case is that the thing is often done by tacit consent, but that probably the next agnate could forbid it. The existence of the name as a well-known term shows that the custom does obtain in some degree.¹

169. A man may make a stranger of another clan his *Moustha* or half-brother, if his near agnates consent, in which case he gives him a definite share of his land on the spot, and the *bikambhi* loses all rights of inheritance in his original family. The ceremony is completed by public declaration of the transfer and the consent, and by the usual distribution of sweetmeats. According to Elliot (*The Races of the N.W. Provinces*, Vol. I., page 228) the *Moustha* could not formerly dispose of his land, but this is no longer the case. But some hold that, if the *ba, ba, ba* has no near agnates, the land reverts to the family of the donor.

Under no circumstances, except as above mentioned, can a land-owner make a gift of land out of the agnate community; and not even within it, except among the Rors; and then if the gift is made in the absence of sons, and a son is born afterwards, it is revocable. Small gifts of land as religious endowments are, however, recognised. Wills and bequests are practically unknown. In old days sales of land were unknown. The right of pre-emption by agnates is universally recognised in the order of right of permanent inheritance, and is almost always asserted by summary petition; but, owing to the uncertainty felt by the people as to the action of the courts, and the costliness of an appeal to them against a purchaser who is usually well off, is often not pursued to trial.²

*Butcher-and-
butcher systems.*

170. The above abstract of customs applies only to all Hindus and to Muslim Jats, Gujars, Rors, and Kambahs, and to Muslim Rajputs, except the Turwars of the town of Paudip. These last, who are all Muslims, and live in daily contact with original Muslims, follow in many respects the law of Islam. *Peculiar* the Sayids who live in the villages have adopted several of the Hindu restrictions on inheritance and alienation. In both classes, for instance, sons and sons' sons &c., exclude all other heirs. The original Muslims of the cities follow the law of their faith with very little divergence. The Roras, who are all Muslims, hold a sort of intermediate position between the two.

¹) The Jats, Rajputs, Gujars, and Rors of Central and unanimously that the *ba, ba, ba* did not inherit land.—J.M.D.

²) First few priors are often interred in order to defeat pre-emption.—J. M. D.

171. The inferior proprietor (*Mallik adas*)⁽¹⁾ has full right of property in his holding in reality, but has no rights of ownership in the common land, the share which appertains to his holding still belonging to the persons from whom he acquired it. This class of proprietors is exceedingly small. In some cases it has been shown that people who do not belong to the proprietorship proper, but who had, by virtue of long possession or otherwise, or by consent, been recorded at Settlement as owners, have been continuously excluded from participation in all special proceeds of the common land, such as compensation for common land taken by Government, as distinguished from the periodical proceeds which the whole cultivating body shares; and these people have been entered as inferior proprietors, their status having been occasionally fixed by judicial decisions. Some few people, too, have acquired land since the Regular Settlement, admittedly in inferior ownership. And a good deal of land in the old cantonments was declared, after full investigation in 1852, to be held as inferior property.

172. When Karnal was first acquired by us, a considerable area of land close to the town was occupied by the cantonments; and this was added to at various times as military requirements expanded; yearly compensation for the revenue was set being paid to the Mandals. When the cantonment was moved to Ambala, the land was occupied for the purposes of a remount depot. But as much of it was not needed, it was decided to give up the whole, and lease from the owners so much of it as might be required. But much capital had been expended in the construction of barracks, gardens, and the like; and the properties so formed had changed hands for consideration. It was therefore necessary to recognise the interests so acquired. In his minute dated 5th February 1852, laying down the principles upon which the revision of Settlement of 1852 should be made, the Lieutenant-Governor remarked as follows:—

"The Government have determined to relinquish the lands of the Karnal cantonments to the proprietors. The lands will revert to the directors, but between whom and the Mandals the revenue will be given up unreservedly to the community of bisamdar. * * * The houses and compounds occupied by individuals, should be occupied by the bisamdar, (see See III, Directions to Settlement Officer), and a fair sum laid upon them, to be paid by the occupant to the bisamdar, of which sum nine-tenths will go to the Mandals, and one-tenth to the bisamdar. If any land is retained by Government as attached to their own buildings, this should be entered as mitali; and, if it is of considerable extent, it corresponds with cantupur. But if the land retained is of small extent, there will probably be no objection to discontinuing all further payment, and leave the matter thus."

Tenure of Karnal
Cantonment lands.

(1) Such owners are usually described as *maiti kalan*, and have been recorded in the Settlement records of India and Karnal.—J. M. D.

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*Terms of Kurnal
Common lands.*

A careful investigation was therefore made on the lines thus laid down. The area retained as Government property was very small, and remained unassessed. Certain occupied plots were declared the inferior property of the occupiers, and the remainder common land of the village. In 1855-56 Government declared these inferior properties to be transferable and heritable. Some few of the occupiers who could show no sufficient title had been held to have only a right of occupancy for life, and were so recorded. In some of these latter cases the village has recovered the land on the death of the occupier; in others the heirs are still in possession, and have in some cases judicially established their proprietary right. An area of about 2,100 acres in Karnal and four adjacent villages, was held from that time by Government on a lease at a rental of Rs. 2,804 for the purposes of a breeding stud, and afterwards of a cattle farm. The land has recently been purchased by Government for Rs. 75,077.

Riparian customs.

173. The deep stream is recognised as the boundary between villages on opposite side of the river all along the part of the Jamia recently under settlement, and has been declared by Government to be the boundary between Karnal and the districts of Saharanpur, Muzaffarnagar, and Meerut (G. of I. Home Dept. Notification No. 136, dated 12th January 1854). In 1878 a considerable cultivated area was given up without dispute by the Tamia people to our villages under the operation of this rule. The custom is recorded in the administration papers on both sides of the river. Mr. Isherwood writes :—

"In former days a custom existed throughout the riverain villages of the tract, that, when an individual land-owner had his land cut away by the river, an equivalent area from the common land was given him in exchange, the loss being thus borne, as far as possible, by the whole community. Numerous old letters attest the universality of this custom. Unfortunately, the old administration papers¹ are silent on the subject. Yet in 1856 the Government, in concordance with the Board, ruled that although no provision was contained in the Settlement record, yet the alienation of common land in these cases was borne out by usage, and should be suffered. In preparing our new administration papers, I directed particular attention to the record of this very admirable and capitalisable custom, wherever it might still be found to exist. In some of the villages it was found in full force, and recorded accordingly; in fact, I know of several instances in which it has been acted upon within the last few years. But in many villages the people declared that no such custom now obtained; and I did not think it right to propose to record for future guidance a rule, however admirable, which they averred was not at present in force. But the despatch of the custom is much to be regretted."

Tenants and rent in general.

174. Table No. XVI shows the number of tenancy holdings and the gross area held under each of the main forms of tenancy as they stood in 1888-89, while Table No. XXI gives the current

(1) The custom was recorded, I believe, in some of the administration papers of the Indri persons at the 1st Regular Settlement, but it has largely fallen into disuse.—J.M.Q.

rent-rates of various kinds of land as returned in 1858-59. But the accuracy of the figures given in table XXI is doubtful; indeed it is impossible to state general rent-rates which shall even approximately represent the letting value of land throughout a whole district.

175. The status of the tenant with right of occupancy, which has been the subject of so much dispute, was found to exist in this district in the days of the early Summary Settlements. In 1829-31 elaborate reports on the tenure of the tract settled by Mr. Ibbetson were prepared for Government in lands laid down by it. From these we find that those tenants included all regular cultivators, whether resident or of another village; and that the tenants-at-will consisted wholly of "village servants," "itinerant cultivators, persons who, from a variety of causes, "may have temporarily abandoned their village, and individuals "who do not make agriculture their chief occupation, such as "weavers, bairas, &c. They usually receive from year to year "such portions of land as their needs may require, sometimes "from the community, but more often from individual members, "usually on the condition of becoming responsible for the corresponding portion of the revenue. Occasionally the landlord "receives a very trifling amount of rent; but more frequently "he shares the produce according to agreement, and is alone "responsible for the dues of the State. These tenants are at "liberty to give up the land when they please, and are removable "at the will of the community or landlord." All other tenants, save those described above, could not be ejected so long as they continued to occupy their lands and to pay their share of the Government revenue. They shared equally with the owners in the proceeds of the common lands, such as the sale of firewood or gmas, or grazing dues paid by other villages. The title of the landlord was preserved by "the form of demanding sirsas or one-tenth of the produce, when perhaps only a few grains were granted as an acknowledgment of holding the land from a superior," or by the tenant paying his share of the village expenses through his landlord, or by the landlord's family priest taking his dues from the tenant also. These tenants, moreover, did not "claim the rights of sale or transfer; but, with the abhorrence with which the cultivating class view the sale of land, they are on an equality in every essential particular with the landlord." The non-resident (*padi*) cultivator even paid only 75 per cent. of the revenue which he would have paid had he been resident, and bore no share of the village expenses; yet he enjoyed equal rights of occupancy with the resident tenant, and, in fact, "possessed every substantial benefit in an equal degree with the owner, while paying much lower rates." The Settlement Officer pointed out that "it was chiefly the good faith which all classes of the community preserved in their dealings "with each other," that prevented awkward claims by tenants to proprietary rights, and "rendered disputes very infrequent with respect to property so ill-defined." As a fact these tenants have, in some cases, been declared owners by the courts on the

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*Rates of rent in old Panipat
and Jhangi Kurnial.*

goand that the tenants had always enjoyed a share of the common produce, and or apparent ignorance of the fact that such was the almost universal rule throughout the district. The Collector of 1831 who had had long and intimate experience of the people, and whose report was most interesting and complete, discussed at length the apparent hardship to the owner involved in those tenures, especially those of non-resistant tenants, and the desirability of recognising his right to rent in some form; but he summed up strongly against it, as opposed to the idea of the people, and certain to be productive of endless disputes and ill-feeling.

It is curious how slowly this state of things has changed. When the revenue absorbed the whole margin left from the produce after supporting the cultivator, it was natural that rent should be non-existent. In fact revenue was rent, as the use of the terms revenue-free and rent-free are synonymous for lands of which the revenue was assigned share. It was not till about 1850 that Government interfered to limit the demand of assignees of land revenue to the Government share of the produce; and previous to that date they took rent from the owners exactly as if they had been landlords themselves. But, as the Government demand was gradually limited to a moderate share of the produce, a margin was left in favour of the producer from which rent could fairly have been taken. As a fact, in the Kurnial Nardak, where the Mundal mohras took rent from owners and tenants alike till 1847, and where the uncertainty of the field renders it easier for a man without capital to pay a share of the produce than a share of the revenue, because, although the total amount paid is larger, it is paid in instalments which vary with the means of paying it, tenants, as a rule, still pay a share of the produce (*kutia*). But throughout the rest of Panipat and jhangi Kurnial, except in the city of Panipat and one or two similar revenue-free villages held by non-cultivating owners, where cash, and still more commonly, grain rents have always been taken, and excepting, of course, the Skinner villages, rent is still almost unknown. Mr. Webster wrote in 1850:—

"I know of hardly a single case outside the cities and the villages already mentioned, in which rent is taken from tenants at will even, whose cultivation dates from last Settlement. Tenants of later standing, and especially those who have only lately begun to cultivate often pay rent; in the Khairi perhaps generally. But in a very large number of cases they still pay revenue only; and, where rent is paid, it is generally very much below the competition value of the land. This state of things is, however, gradually changing. The people have awakened to the possibility of demanding rent, a good deal I think, in consequence of Settlement operations, the inquiries attending them, and the new ideas which they have engendered. The change is, however, extrinsically slow. Even now the great majority of tenants pay no rent; and especially is there a strong feeling in favour of the tenants-at-will of old-standing; in fact the people are inclined to deal more leniently with them than with the occupancy tenants, for the former claim

no rights, while the latter do. Of course the equal distribution of revenue over the land does, in fact, mean a certain degree of profit to the owners; but they generally hold the best land, so that they pay less for their land in proportion to its value than the tenants pay for theirs; while, on the cultivator and inferior portions, the revenue thus distributed, especially in the Khadir, is often a very fair rent for the land.

The difficulty with which the idea of rent is received is well exemplified in the cultivation of the common land. Of course an individual owner cultivating this land is really a tenant holding from the community as it were. But the idea of taking rent from him is even now, quite beyond the capacity of the people. The owner who breaks up common land will, of course, pay such revenue as the method of distribution of revenue in force will allow to it; but he has by common custom a right to hold the land free from liability of ejection until a division is effected; and even then the land must be included in his share, except in so far as it exceeds the area to which he is entitled. Cases have been not infrequent in which the people have, at division, allowed individual owners to retain the common land which they had broken up, even though considerable owners to build walls at their own cost in the common land, so certain do they feel of the security of their tenure. In short, as already pointed out, the conclusion is irresistible that, in old times, anybody who broke up new land, or even who was given old land to cultivate, except as an obviously temporary measure, acquired a right to hold that land so long as he paid the revenue on it; and this, whether he were an owner or not. The record was so heavy that the village was only too glad to get cultivators to accept land on these terms; and the explanation of the fact that the people even now fail to distinguish between occupancy tenants and tenants-at-will of any standing is, not that old custom failed to raise the ancient tenancy approximately to a level with owners, but that it treated both owners and tenants of all kinds alike so far as their right of cultivating possession was concerned. In 1850 the Saik Board ruled that "the common custom of India gave to the man who reclaimed 'So-and-a-right to transmit the land to his descendants.' That is the common custom here; but what he transmits is the right of cultivating possession, and not of property."

178. Grain rents (*safar*) are mostly in vogue in the city of Peshawar and the few similar villages near it. They are usually paid one-third in wheat and two-thirds in the inferior grain. Cash rents are taken chiefly in the Khadir, either as a lump sum (*salabat*), or a percentage in addition to the revenue (*salabatni*), or a rate per *ligha*. A share of the produce is taken either by annual division (*shahid*), or by estimates of the yield (*tarz*). The owner takes no share of the fodder except when the grain has failed and only fodder is produced. The dues of the *chaukars* and the allowances of the Brahman and Sayyid are deducted in full before the division is made; the dues of other village mohills are paid by the cultivator alone. Where a share of the produce is taken, money rates on area for each *mapha* (*sefti*) are generally taken on sugar, cotton, tobacco, pepper, most vegetables and spices, with

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Kinds of rents and other tenanted dues.

and share, given for fodder only ; as in all except the last two, which are purely fodder crops, the produce is not collected at one time and spot, so that division would be difficult and dishonesty easy. In the Khadir and Bangar the share of the produce commonly taken is one-third on all lands, though the Skinner takes two-fifths on unirrigated crops. In the Nardak the custom is to take one-fourth only ; but irrigated or highly cultivated land, the area of which is very small, is never let on these terms.

The landlords, as a rule, are responsible for providing carts and bullock-carts for the use of Government officials. But in the villages they pay no other dues. In the city of Panipat and the similar villages near it they generally pay many miscellaneous dues (*sabseb*) such as milk, green wheat for fodder, earth for building houses, dung-cakes, &c., and the Skinner also takes many extra cesses, often making their tenants pay all the Government cesses, the *farahdari* allowances, the *pahar*, pay, and a levy on account of expenses of management called *kharba*. There are some very curious dues paid in the city of Panipat which, though not actually rent, are paid by purchasers of land to the original proprietor from whom they purchased it, in consideration of certain rights of ownership which did not pass with the sale. The principal of these are *dakhi rakkha* and *hakk ab*. If a man sells his fields, his property in the *dakhi* or dividing ridges does not pass unless expressly specified ; so he takes what is called *hakk rakkha* and is responsible for keeping the ridges in order. So again, if the well was not distinctly specified, the property in it does not pass, though the well in which it stands being no longer his, he cannot get near it to use it. But he takes *dakhi ab*, and it is a disputed point whether he cannot forbid the purchaser to use the well. Each of these dues is generally fixed at one-eighth of the rent or owner's share of the produce. Again, if a man wishes to carry water along another's *dakhi*, he pays *dashma*—generally a lump payment of 5 to 10 annas a harvest.

Tenants and rents
in Indri.

177. The last two paragraphs are taken almost entirely from Mr. Ibbitson's Settlement Report, and relate to the state of things existing in Panipat and pargana Karnal ten years ago. If the figures in statement XVI are trustworthy nearly two-thirds of the tenants-at-will at Panipat still pay "at revenue rates with or without cash-basis." In Indri it was found at the recent Settlement that 8 per cent. of the land was cultivated by occupancy tenants and 20 per cent. by tenants-at-will. The number of the latter class who pay at revenue rates is less than one-fourth. True cash rents are almost unknown in the Nardak, but one-eighth of the land held by tenants-at-will in the Bangar and one-fifth in the Khadir are cultivated on these terms. The rent rates deduced by Mr. Desai from the statistics of cash rents were :—

Circle.	Chatt.		Bamoli.	Sabzi of Jammu.
	Rs A. P.	Rs A. P.	Rs A. P.	Rs A. P.
Khadir	4 8 0	2 32 0	1 14 0	
Bangar	3 12 0	2 9 0		...

Zakhi rents are taken for cane, cotton, tobacco, red popper, and vegetables. The average rates are Rs. 7 per acre for cane, Rs. 0 for irrigated, and Rs. 4 for unirrigated cotton, Rs. 5-4 for tobacco, and Rs. 4-3 for chillies and vegetables. The average for maize is Rs. 2 in the Khadis, Rs. 1-15 in the Bangar, and Rs. 1-9-0 in the Nardak. Most occupiers tenants pay revenue and cesses with a small addition for zakha, but in the Khadis a good many of them divide the crop with the landlord.

Tenants as well as a ruler pay rent in the shape of a share of the produce. In the Khadis one-third is usually paid and in the Nardak one-fourth. In the Bangar both these rates are common. Owners cultivating their land through tenants very often take, in addition to the customary share of produce, certain payments in grain, under the name of *kharab*. These usually vary from half to two acres per manund, and are deducted from the total produce. In considering what the owner and tenant equally require respectively allowances must be made for the payments made to Brahmins and village menials from the common karp or before division. In Rajput villages the deduction on this account amounts to about 12 per cent., and in Star and Jat villages to about 5 or 6 per cent. of the return. It is difficult to calculate exactly the amounts, some menials being paid at so much per manund, and others at so much per plough, but the following table gives a very fair idea of what is paid in a Jat village in the Khadis. It is assumed that a Jana or cultivating association, owning four ploughs, owns 30 acres of land in the rabi harvest, two being well irrigated, and twenty unirrigated; that the irrigated land yields at the rate of 10 manunds, and the dry land at the rate of 5 manunds per acre. The total produce is, therefore, 200 manunds of grain.

To whom paid.	Rate in $\frac{1}{2}$ annas	A PUNJABI		REASONS.
		Manunds	Rs.	
Azadhi to Brahman Patidhi	1 per cent manund	2	0	
Panchayti to Brahman	1 " " "	1	10	
Bogar Chawar	1 " " "	2	20	
Hathdi	10 acres ploughs	2	0	
Lohar	10 " " "	2	0	
Dassai	10 " " "	1	0	+ Higher rates are paid to a labourer who assists in irrigation.
K. mukhi	10 " " "	1	0	
Jhawar	7½ " " "		50	
Nal.	7½ " " "		50	
Dholi	7½ " " "		50	
Gahra	5 " " "		25	
Total		17	20	

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Village Communi-

ties and Tenures

Tenants and rents
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Tenants and rents
in Kaithal.

178. According to the returns prepared at Settlement only 22 per cent. of the cultivated land in Kaithal was in the hands of tenants. Above 3 per cent. was held by occupancy tenants, and less than 19 per cent. by tenanted-will. The number of occupancy tenants has been increased by the orders recently passed in the case of the Kaithal leased villages. More than half of the tenants-at-will pay only the revenue and cesses. The proportion of such tenants paying competition rents so called in cash or grain is one-third in the Bangar and Amritsar, two-thirds in the Nalli, and half in the other circles. One-fifth of the grain rents in the Bangar come from one of the *patti*s of Kaithal, and in the month or half of the circle division of crop is unknown except in one or two canal villages. When a tenant's rent is stated at revenue and cesses it is not meant that he pays the revenue rate fixed at last Settlement, but a proportional share of the demand as spread over present cultivation. Indeed in the Nardak and Bangar a fresh distribution of the revenue over holdings is often made each *baisakhi* according to the area actually under crop. In the Nardak a *baisakhi* on all cattle-grazing in the village is frequently made, and only the balance put on the land. In both circles the Spring crops are as a rule so scanty that the extra demand is left unpaid and repaid with interest out of the proceeds of the *ghi*. The *panchayat* in the rainy season. In the Bangar, Nandak, Nalli, and Amritsar one-fourth is the rate of *baisakhi* for unirrigated crops. When canal irrigated crops are divided the owner takes one-fifth and the tenant pays the occupier's rate. In the Powadh one-third is the usual rate of *baisakhi*, but one-fourth is not uncommon. In all circles both grain and straw are divided, but the owner's share of the straw is sometimes less than his share of the grain. The deduction to be made for grain payments to village muniials, etc., amounts to about one-twelfth of the produce.

Zabti rents are rare in the Bangar and Nandak. They are highest in the Powadh where the usual rent for jute is Rs. 2, for cotton, tobacco, and vegetables, Rs. 1, and for *chauri*,⁴ annas per *kambala bigha*. Cash rents other than revenue and cesses are not often met with, and are very moderate. Kaithal is a country of small holdings and numerous land-owners. Less than 6 per cent. of the soil is cultivated by tenants-at-will who are not also land-owners or occupancy tenants. The competition for land is therefore feeble. Besides where the autumn is uncertain as in the greater part of Kaithal, no man in his senses would agree to pay a high cash rent. Still the rents in Kaithal are much lower than those realized in similar tracts in Hissar. An unirrigated holding rented at more than 8 annas a *patta bigha*, or 13 annas an acre, can scarcely be found in the whole Nandak and Bangar. The smallness of the rents realized for canal lands is very striking.

Other village
grants.

179. Petty village grants are not uncommon. Sometimes the land is leased to the grantees at a reasonable rent, or on condition of payment of revenue only; sometimes the owner cultivates and

pays the revenue making over the produce to the grantees, while occasionally the grant consists of the rights of property in the land, which, subject to the usual incidents, such as responsibility for revenue and the like, vest in the person performing certain specified services at such time and for so long as he performs them. These grants are most commonly made in village materials and watchmen on condition of, or in payment for, services rendered, to attendants at temples, mosques, shrines, or village rest-houses, so long as they perform the duties of the post, and for maintenance of monasteries, holly men, teachers at religious schools, and the like. They are called *shahi* grants; are usually made by the village or a sub-division of it, less frequently by individual owners; and are personal to the grantees and revocable at pleasure, though seldom resumed, and often continued to heirs. The *shahi* registers of Indri contained many petty village grants of this description. These have now been put in their proper form, the assignment being resumed as far as Government is concerned, and the land owners being given an opportunity, of which they often avail themselves, of excluding the land from a assessment in distributing the new demand over holdings. The holders of these grants have been generally in Indri regarded as "nafik labra." If they cease to do service and the land owners desire to put an end to the assignment, the land should at once be assessed at village rates, and the revenue imposed credited to the owner.

180. Every village keeps open-house to the countryman. A traveller *chalo* who has no friends in the village puts up, as a matter of course, in the common-room of the village, and receives food and lodgings free, though he will, if possible, choose a village inhabited by his own tribe. Every Government servant passing through the village is fed in like manner; and, though this custom is a source of considerable expense to villages on the main roads, it is founded upon the feeling of the people, and not primarily upon the exterior of the album. Hospitality of this sort is considered a social duty, to refuse it is an insult, and a village which was grudging in its exercise would be dishonoured in the sight of its fellows.

The headmen, who sit on village business, during their absence, and often perhaps a little more, to the village account. The village common-room, the village shrine, the drinking well, and other public structures, have to be maintained and kept in repair, and occasionally new ones built. Small religious offerings are made on occasion in the name of the villagers; and a nuptial setting for the first time in the village generally receives some pecuniary help to enable him to start fairly. *Prahar* fees (*dakshinas*), too, are levied on the village, if the revenue is in arrears. All these and similar expenses constitute the common expenditure of the village called *lha*, literally meaning refuse sweepings, because of the many miscellaneous items which it includes.

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TenuresPetty village
grantsCommon expen-
diture of the village

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ture of the village

There is generally a *baisid* appointed as *mukhtadar* for the village or a sub-division of it; and the headmen draw the necessary funds from him, the accounts being audited by the community when the half-yearly instalment of revenue is collected. The old administration papers of Pampat and *parso* karmal fixed a very high limit, generally 6*½* per cent. on the revenue, beyond which the headmen could not incur these expenses without the previous sanction of the community. In the papers of Mr. Dobson's Settlement the very much narrower limits fixed by Financial Commissioner's Circular No. 4 of 1860 were inserted. The headmen grumbled doubtfully; for village hospitality accounts for most of the expense, there must be incurred, and in many of the larger villages the necessary expenses will no doubt often exceed the limit; while among the Jats, at any rate, some of the evil-disposed are tolerably certain to object whenever they have an opportunity of making things uncomfortable for the headmen. But, on the other hand, it is probable that the headmen used often to make illegitimate profits from the *walas*, realising up to the limits fixed without regard to the expenditure. In Ludri and Kallial the arrangement in force is generally that known as *deekhae mukti*, that is to say, the actual expenditure incurred is recovered from the co-proprietors. So long as the village community is fairly compact, and money-lenders have not a strong hold on the land, this is probably the best plan.

Common income of
the village, village
taxes.

181. The proceeds of the village may be divided into two classes, first are the occasional proceeds derived from the sale or lease of common property, such as the sale of jangal, the lease of pasture to travelling herds of cattle, the sale of the nitrous efflorescence (*alkali*), which abounds in old homesteads, for the purpose of manure or the manufacture of saltpetre, the small dues sometimes realized from carts which come for dry firewood, the fine often paid by strangers for permission to collect kine, to eat thatching grass, and the like. These are, if of any material amount, generally divided at once among the owners, and the tenants have no share in them. If petty, they are paid into the credit of the general *walas* account. The second class consists of the regular dues, which are included in and collected with the half-yearly revenue account, and in which all revenue-payers, whether owners or tenants, share proportionally. The most important head of income is the *bakis* tax or hearth tax. This is collected in almost every village, and the usual annual rate is Rs. 2 per hearth; but in small villages, where the communal expenses are insensitible, it varies with their amount. Thus the fact that it has not been collected at all for several years, when other common income has been sufficient to cover the communal expenditure, is by no means decisive against the right to collect. It is paid only by non-cultivators, and *Dalals*, sweepers, *Bans*, barbers, and washermen, so long as they exercise their calling, are exempt. It formed part of the old *abubakha* or four-fifth

levy taken in old days on *pag*, *tag*, *burki*, and *pruchhi* or the head-cloth of the men, the waist-string of the male children, the burth of the non-cultivators, and the tails of their cattle; and to which measure was often had to resort losses caused by cultivators abandoning their lands and failing to pay the revenue due on them. A discussion of the real nature of *burki kasi* will be found in para. 268 of Mr. Ibbetson's Settlement Report. The above remarks apply primarily to the part of the district which be settled. The dues payable by residents, who are not members of the proprietary body, in Indri and Kaithal villages, have been detailed in the administration paper of each state.

Besides the hearth tax, there are the grazing dues, *chugai* or *charai*. This is chiefly levied in the Nardak, where pasture is extensive, and non-proprietors often keep numerous flocks and herds. The rate is usually 5 annas per milk buffalo, 1 anna per cow, 2 annas per weaner calf, and Rs. 3 to 6 per hundred sheep or goats. In Kaithal the usual rate is one anna per head for sheep and goats. The cattle of proprietors and all plough cattle are always exempt; and, as a rule, the cattle of all cultivators graze free. This does, when realized in villages with limited pasture, is generally taken only in years when the village expenses are very largely in excess of the common income. It is a payment in consideration of the right of grazing on the common lands, and must be carefully distinguished from the distribution of revenue upon cattle, which is generally adopted in the Nardak villages when a drought has rendered the number of cattle possessed by each a better test of ability to bear the burden of the revenue than is afforded by the areas of fields which have produced nothing. In this latter case the cattle of owners are of course included. Besides these dues there is an annual levy of Rs. 2 upon every oil press, which is occasionally taken; and a small periodical payment is made, chiefly in the Nardak, by every non-cultivator who cuts firewood or *yatra* from the common grounds, and is usually quoted at Rs. 1 a year on each acre of hill-hook (*prudara*).

182. Mr. Ibbetson gives the following description of the six-monthly distribution of the revenue demands in the villages of the tract which he settled:—

'When the half-yearly instalment of revenue becomes due, the *walda* account is first audited. The list by which the buruli tax is to be levied is then made out, and this is generally so adjusted as to leave a fair share of the general expenses to be paid by the cultivators, who are exempt from the tax. The balance so left, after deducting the grazing dues, is added to the Government revenue (dues, probably so-called because originally distributed over *ghoogha* or *hal*), and *casra*; and a distribution (bisch) of the whole is then made over the cultivated land. This distribution is almost always by an all-round rate upon area. The distribution of land according to quality made this method of distribution fair

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Common lands of
the village ; village
dues

The distribution of
the revenue

Chapter III. II

Village Communities and
TenantsThe distribution of
the revenue

though in the first instance, but greater or less inequalities have grown up in most villages, and especially now of our new systems lead to very peculiar results in connection with it. Still the practice has been adhered to with extraordinary unanimity, and payment by shares or by ploughs is by proportional rates on satis, etc., the exemption. In some few villages the distribution is made on the area actually under the plough in each year; but, as a rule, land entered as cultivated at Settlement is paid for, whether cultivated or not (khari per to dasa daas). The newly broken up land, if wholly in the hands of tenants, is included, and sometimes the original Settlement rate per acre is charged on this, with the result of reducing the rate upon the old cultivation. When the land has been broken up by owners it is often not included at all, or not till a considerable area has been broken up, when all land so cultivated up to date is included once for all."

The headmen then collect (*agahi*) the revenue. Tenants of any standing almost always pay direct; nor tenants often pay through the *qawas* even when they pay nothing in excess of the sum entered as due on their land in the distribution list or *fard daat bakh*. Many of the well-to-do pay direct from their private purse; and already the number that do so is considerable, while it is becoming every day more and more the custom for every man who has the ready money to pay in this manner. Those who have not sufficient cash, or who prefer not to pay direct, pay by *bach*; that is they give to the name of their banker (*sah* or *rahbar*). The *pawars* then give each banker a note of the sum due by such of his clients, and the banker pays in the total amount and debits the debts in their respective accounts. The *walba* account is settled, the revenue is paid, the bondsmen take their allowances, and the *agahi* or collection is at an end."

Agricultural partnerships of land

183. Much of the agriculture of the district is conducted by means of *lanaas*, which are associations of households or individuals, such contributing oxen, or labour, or both, and the whole team working jointly, and cultivating certain lands of which none of the members of the association have the disposal, whether as owners or tenants. The agreements for them are made for the agricultural year, dating from the day after *Baisakhi*, the 11th of the solar half of Jeth. In the Nurdak and elsewhere, where the depth of water necessitates a large staff of bullocks, the *lana* often includes seven or eight ploughs of two oxen each; in other places, more often three or four. The sharers are called *rajjis* (*rajja*, a share); if a man contributes a full plough he is called *ch koi ke rajji*; if a half plough *kachch ke rajji* from *bachay*, the space in the yoke occupied by the neck of one bullock; if only his personal labour *ja rajji*, or share of his person. This last class never contributes land, and are generally *Chowries*; while a man who contributes land is adopted or never a *ji ke rajji*. If a woman, not of the family of any of the landed sharers, is admitted, she is called *kharpie ke rajji*, or a sharer of a hog, and takes half the share of a *ji ke rajji*.

The distribution of the produce and the payment of revenue is conducted in two different methods. In all cases the whole of the produce is thrown together, without regard to the extent of individual fields. Throughout the Nanded, and generally among Rajputs, the whole number of heads (sons) in the *lava* are counted. The share of the holder and the price of all iron used in the cultivation are divided over the sons equally, the owner of the bullocks taking all the straw. The grain is collected, the seed-grain repaid to the *lava* with interest, and the dues of the slaves and the religious offerings are deducted. One-fourth of the remainder is then separated as *hakim* share, or the share of the ruler; and this is divided among the people who contributed the land, in proportion to the area contributed by each, and these people pay such the revenue due on his own land. The remainder is then divided upon the heads of men and cows; an ox generally taking twice the share of a man among the Rajputs, because the owners provide most of the cattle, while many of the men are non-proprietors; and also in the villages where irrigation is extensive, because the cattle there labour much hard work. For this latter reason, an ox sometimes takes twice as much as a man in the spring, and only as much in the autumn harvest, when there is no irrigation. In other villages oxen and men share equally. In all cases the costs of cultivation, except the iron, are divided on these same shares.

In the second method of distribution the accounts of the *lava*, which is also called *ratha*, are kept by ploughs, each plough contributing a certain number of half ploughs. To make up the number of men required for his men, a master will often take a *ji ke wajji* into partnership; but in this case the latter claims from the master only, and not from the *lava* as a whole, in which he is only recognised as a man attached to one of the ploughs. The whole cows and power of cultivation, and the revenue due on the whole of the land, are divided equally over the ploughs without any regard to the area of land contributed by each plough. This sort of *lava* is also called *karis*. The *ji ke wajji* in this case takes from the man who engaged him one-fourth, or if there are already two side-by-side men on the plough, one-fifth of the produce allotted to one plough, and pays the same proportion of the revenue, the division being by heads and men and cows sharing equally. He receives no share of the fodder, and pays no share of the cost of the iron or seed. Under this system the *ji ke wajji* is entitled to an advance of Rs. 20 to 25 rupees of interest, and further advances at discretion at reasonable rates from his employer. His account is seldom cleared off, and till it is cleared off he does household work also, so that he becomes attached to his master as a sort of serf, and if a second employer takes him, he is bound to first settle his account with the old employer. The debt is looked upon by the people as a "body debt" (*varis ke karis*), and they hold that they are entitled to compel the man to work till he has cleared it off, and grumble much at our law refusing to endorse this view. In all cases the *ji ke wajji* is expected to do much of the hardest part of the labour, such as

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Village Communities and Tenures.

Agricultural partnerships or tenures.

ploughing; and they are much more used by Gujars and Rajputs than by Jats or Rais. Among the latter the women of the family are often counted and get shares, which the *jeet* or wife does not.

Where well irrigation is largely developed, the advantages derived from this system of agricultural partnership are very great. It enables the individual owners to keep much more powerful oxen than they could afford to do if each man cultivated his own land only. A *farmer* in the Inde-i-Banjar cultivates from 40 to 60 acres of land, about a third of which is probably irrigated. Sugarcane *farms* (*khanda* or *laisa*) are also formed (see paras. 270-280 of Mr. Hibberton's Settlement Report).

Dangward is the name of a system by which two or more owners club their cattle together, either for the year or for a special job. The united cattle work for each in proportion to the number of oxen contributed; and the partners have no further claims upon one another, each keeping his land and its produce and revenue distinct.

Agricultural labourers.

184. Hired labour is made but little use of by the villagers, except at harvest time. The non-cultivating Sayid and the like, however, often cultivate by servants. A labourer hired by the month or year is called *kamra*. He gets 18 to 20 mounds of grain a year and his mid-day meal, or Rs. 8 a month, or his board and 8 annas a month, and often has some old clothes given him. A lad will get Rs. 2 a month, and an old man who watches the crops Rs. 1 and food twice a day. They always get double pay in the two harvest months. They are of course very poor, more so than the poorest landowners. Labourers hired by the day are called *mater*. They get their mid-day meal, and enough corn to give them grain worth about two-and-a-half annas. But in the press of harvest, and especially in the cities, wages often rise to six annas a day or more. The young men of the Nardak, when they have got their early grain or rice, look down to the canal and riverain tracts for employment as harvest labourers.

The wages of labour prevailing at different periods are shown in Table No. XXVII, though the figures refer to the labour market of towns rather than to that of villages.

185. Mr. Hibberton thus describes the village *bawali* of Karnal:—

"The village bawali or *Sahukar* is a mark, and, in my opinion, generally a very wrongfully abused person. Rapacious Jews of the worst type, to whom every sort of misery and rascality is the chief joy of life, and in whose hands the illiterate villager is as helpless as a child, do exist, especially in the cities. But they are well-known, and only had recourse to in the last resort. * * * * *

"Nor is the banker himself generally so exacting as he is often said to be. He charges monthly interest at the rate of a pice in the rupee—1½ per cent per annum—when his client is a substantial man, and from 2½ per cent upwards when the credit of the latter is doubtful. He credits grain received at a rate per rupee more, and debits it at no much less than the market rate. But his chances at loss are often great, the periods of credit are generally long, and at the time of contingent allowances are made and a compromise effected more easily than would be thought possible. * * * * *

In time of drought and famine the basis is the tillager's main stay; without him he would simply starve. In fact the function of a bank in a village is very like that of the air-chamber in a fire-engine. He receives the produce of the village, the supply of which is fitful and intermittent, stores it up, and emits it in a steady and effective stream. And if some power is lost in the process, it is only the cost at which all machinery is worked: for force cannot be transmitted from one into another and more serviceable use without some part of it being lost on the way."

186. The *paiswari* is in these parts emphatically a Government servant, the *mukhabardar*, who corresponds to the Panjab *dharomi*, usually keeping the village accounts. Among the Nandl Rajputs especially, the *paiswari* often knows little of the private arrangements of the community. But in the remainder of the tract the *paiswari* often has the whole matter of the distribution and collection of Government revenue in his own hands. Still it is wonderful how many of the *paiswari*s possess the entire confidence of the tillagers. Mr. Inneson writes:—

"No doubt a good deal goes on which we should be unable to approve of. I believe that only exceptionally occupied *paiswari*'s ever pay their bill with the village funds, the great majority being free as the expense of the village. But I do not think that a *paiswari*, who does not, is necessarily corrupt or extortionate. The custom is in consonance with the habits of the people; the burden is so widely distributed as to be hardly perceptible; and, as the whole contribution equally, there is no temptation to partiality. So long as the *paiswari* is impartial and not too luxurios in his style of living, the people are well content to incur at the price the good offices of one who has very much in his hands, and are, perhaps, not sorry to have little criticism in his master's account books, which can be brought up against him in case of need; and the gratification is continued, as a matter of course, often, probably, without being asked for. But if he falls in these respects, there is trouble. Of course when such a state of things is discovered, it is necessary to take notice of it; but I am not sure that it is always wise to discover it. Even if it should tend to destroy his independence as between the Government and the village—which I doubt, for his appointment rests with Government—it also tends to keep him impartial as between individual tillagers; and the latter quality is the more important, because so much the former called into play."

187. The menials or *hansi* form a very important part of the village community; and nothing is thought to be so effective an

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munities and
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Village councils

portion of the power of a village is to say that the labourers have left it. They perform all the labour, or work that will be by the job; and this includes the work of sowing, reaping, ploughing, and other Government work when travelling. For this they are specially paid, and indeed in 1826, Lord Hastings issued a proclamation abolishing sur, or forced labour as it was called, the former partition of the Coddar to revoke the obnoxious orders, as, in the Collector's words, "they were no longer entitled to any sort of subsistence, so their services were no longer called for" and their allowances no longer paid them." This is, of course, an exaggeration; and forced labour is sometimes no taken as to be a real injury to the people. But for the ordinary service, which the custom of the country permits, the cultivators are fully paid by the cultivators, who, and not the menials, are the people to be considered. The payment to manual is made either by a share of the produce, or by a fixed allowance upon the plough or Persian wheel. The labour is done by the various labourers in accordance with a thikra or ration list kept by the thikra Banda (see page 101).

Chamars

188. *Chamars* (shavers and cobblers) are in these parts by far the most important class of menials, for, besides their function as artisans, they perform a very considerable part of the agricultural labour. They numbered 51,067 at the Census of 1881 or about 8 per cent. of the total population of the district as then constituted. On the 11th of the second half of Jeth, the day after Dashtera, when the arrangements for the ensuing agricultural year are always made, the *lais* and *hukums* agree how many *Chamars* each wants, and before the *Maha Bania*, who distributes the various houses of *Chamars* among them by lot, each *hukum* then agrees with its *Chamars* whether they will be *hukum* or *lais*, or *arkha* (*arkha*—to labour) receives either a twentieth or a twenty-eighth part of the grain produced on the *lais*, having no share in any other portion; and for this he provides an unskilled man to be always at work in the fields, and makes and mends all the tools and leather articles needed by the *lais*. The *lais* he *Chamars* receive a fortieth or forty-eighth part of the grain; and for this he provides a man to work in the fields whenever special work is in hand, such as weeding, harrowing, &c. He also gives two pairs of hoes a year for the plough-man, and two for the woman, who brings the bread into the fields; and one we-whip (*arkha*), and a leather strap (*arkha*) to fix the ricks (*arkha*) to the plough, in the half year and does all the necessary mending. The *arkha* *Chamars* takes an eighthieth or eighty-eighth part of the grain; and gives work and ricks to half-jheels, *hukum* land, and does Government work. Besides the above dues, the *Chamars* always have some grain left them on the threshing-floor, called *chhar*, often a considerable quantity. The *Chamars* are the leaders of the trade. They cut grass, carry wood, put up tents, carry bundles, act as watchmen and the like for officials; and this work is

served by all the Chauras in the village. They take the skins of all the animals which die in the village, except those which die on Saturday or Sunday, or the first which dies of cattle plague. They generally give as part of their pay, and to each per buffalo skin one taken, to the owner. They and the Chauras take the flesh also between them. The most usual division being that the Chauras take that of cloven-hoofed animals, and the Chauras that of whole-hoofed animals and deer skin.

189. The *Bauli* or carpenter receives a fixed allowance; generally 40 to 45 annas per Persian wheel, or half as much per plough; and a bhat (*bhati*) and small bundle (*gajra*) of corn to the *khanda*, yielding perhaps 10 acres of grain and the green half as much. For this he repays all agricultural implements and household furniture, and tools, all without payment except the carts, the Persian wheel, and the *angri* press. The wood is found for him.

The *Kohar* or blacksmith receives the same as the *Bauli*. He makes and mends all iron implements, the iron being found him.

The *Kutti* or piper gets the same as the *Bauli*, when he has to provide earthen vessels for Persian wheels. Otherwise he gets 10 to 20 annas per plough. He provides all the earthen vessels needed by the people or by travellers; and he keeps donkeys and carries grain on them from the threshing floor to the village, and generally brings all grain to the villages that is bought elsewhere for seed or food (*bisi*, *luchi*) or for washing or feeding. But he will not carry grain away from the village without payment. In Kaithal *Kutti* has a good deal of the carrying trade in grain.

The *Chaura* or swineherd gets half as much as the *Bauli* or often less, and a share of the flesh of dead animals as already noted. He sweeps the houses and village, collects the dung, puts it into cakes and takes it, works up the manure, helps with the cattle and takes them from village to village. News of a death sent to friends is invariably carried by him. In villages where the women are secluded, he gets a daily sum of bread from each house in addition to his allowance, which is the same as that of the *Bauli*. They are the most numerous class of officials after the *Chauras*. There were 31,255 *Chauras* in the districts at the Census of 1881.

The *Mishan*, *Kabur*, or boar herdsman gets about the same as the *Chaura* and receives a daily head of corn at home. He brings water to the temples, and at weddings, and when plastering is being done; and makes all the beds needed, and the forms of matting and *bijli*, or fans, generally of date-palm leaves. Where the women are secluded, he also brings water to the houses and receives a double allowance. He is the foreman of the country.

The *Nai* or leather receiver gets a small allowance, and shaved and shampooed, makes tobacco, and stands open guests. He also is

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Other peoples.

the person to go on messages and enjoys large requisites at betrothals and weddings.

The *Daohi* or washerman receives as much as the *Bauli* in villages where the women do not wash the clothes; but only a small allowance, if any, in others, where he is often not found at all.

The *Teli* or oilmen, *Tundaria* or wood-seller, the *Jalak* or weaver, the *Champi*, alias *Lilgar*, or dyer, the *Purb*, *Purba*, or cotton-somcher, and the *Samar* or goldsmith, get no fixed allowances, but are paid by the job; usually either by retaining some portion of the material given them to work up, or by receiving a weight of grain equal to that of the materials.

The *Bhawak* is an inferior sort of *Chadra*, who will eat a *Chadra's* leavings (*jata*) while the *Chadra* will not eat his. They often take the place of *Chadras*, and frequently weave cloth.

The *Dasi* or *Hirani* are the musicians of all, and the lairds of the tribes other than Rajputs and Brahmins, whose Hindus and Jains seldom reside in the district. The *Dasi* is the very lowest of castes. There are generally a few *Jogi*—a bar caste of devotees who take the offerings to Shiv and to Guga Pir; and a few Muhammadan *Fakirs*, who take the offerings to the Muhammadan saints.

Inhabitants of the
village generally.

(10). The remaining inhabitants of the village are chiefly Brahmins and Banias. The former are the family priests of the people, and even among Mussulmans play an important part in weddings. They live by the offerings of their clients. The Banias, whom I have seen, have no other calling than that of trade, though a few families cultivate. On *pind*, the day after Holi, they give a ball of *gar*, and on the day of the great *Bhooli* a little parched rice or some sweets to the proprietors, in recognition of the subordinate position which they occupy in the village. And on the latter day the kamias bring small offerings of articles belonging to the household of each.

All inhabitants of the village have a right to graze a reasonable number of cattle, their own property, on payment of the recognized dues, to collect dry wood for burning, to cut such bushes or grass for thatching or ropes as they need for use in their houses and cattle yards, and to dig mud for bricks, &c., from the village tank. But a small sum for every acre or bigha-huk is often taken from non-cultivators where jowpati is plentiful. Cultivators have ordinarily a right to cut wood needed for agricultural implements and pole and grass from the common lands, except in villages where they are very limited in extent and insufficient for the needs of the owners. The manure of the cultivators is used by them in their own fields; but they cannot sell it out of the village. That of the non-cultivators is the joint property of the village; or, if the homestead is divided by walls, of the owners of the shard in which they live. It is kept in great joint stock heaps, and divided

by the owners according to ploughs. The oilmen often pay Rs. 1 or Rs. 2 on every press to the village.

Non-proprietary inhabitants are the owners of the materials of houses which they build; but not, unless by purchase from the village, of the land on which they stand. But they cannot ordinarily be ejected from land they have occupied in or about the homestead, whether for houses, cattle-yards, fuel heaps, or the like, so long as they reside in the village and pay the customary dues, unless the land occupied by them is needed for extension of the homestead proper; in which case they would be ejected, and have similar ground allotted them a little further off.

191. The pay of the village watchmen is fixed by Government and paid by the community equally upon hearths. But the further duties of watch and ward are performed as follows by the whole adult male-inhabitants of the village. There is in every village a *thikor* bania. *Thikor* literally means a shard; and, as lots are commonly cast with shards, is now used for any rota or roll by which duties are performed in rotation. The *thikor* bania keeps a roll of all adult males except himself and the headmen and their next heirs, who are exempt; and these males have to keep watch in the village at night in rotation, the *thikor* bania warning each as his turn comes round. In large villages there will be several men on duty at once. The roll is revised generally every 12 years to include men who have grown up in the meantime. This duty is called *thikor* par excellence, though the *thikor* bania keeps other rolls, such as the allotment list of *Chamars* and the like.⁽¹⁾

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munities and
Tenures.Inhabitants of the
village generally.Watch and ward,
Thikor.

192. Table No. XXXII gives statistics of sales and mortgages of land; Tables Nos. XXXIII and XXXIII A show the operations of the Registration Department; and Table No. XXXIX the extent of civil litigation. But the statistics of the transfers of land are far all but the latest years very imperfect, and the returns of the past six or seven years are inflated by the inclusion of old transactions brought to light by an improved system of recording mutations. More reliance can be placed on the statistics for Indri and Kaithal collected during the recent settlement. It was found that in Indri 9 per cent. of the total area of the pargana had been sold since 1850, and that 33 per cent. of the remainder was burdened with usufructuary mortgages, the mortgage debt being Rs. 2,04,834, or about 1½ times the revenue of the whole pargana. In considering these figures it must be remembered that in deeds of sale the vendor's share of the common land is usually transferred along with his separate holding, but our returns only show the area of the latter. It is only when we consider this, and bear in mind that but one-half of the area of the pargana is cultivated, and that the land sold and mortgaged is usually under tillage, that the full significance of the figures becomes apparent. The largest purchaser and mortgagor was the late Narah of Kunjpura. During

Sales and mort-
gages and extent
of civil litigation.

(1) Para. 191 was written originally with reference to Panipat and parganas Karnal. I cannot say whether it applies exactly to the rest of the district.

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Sale and mortg-
age, and amount
and cost of
land sales.

the 17 years ending with 1884, he bought 1,499 acres in the villages of his jagir and 1,313 acres were mortgaged to him. 48 per cent. of the sales and 60 per cent. of the mortgages from 1863 to 1884 were to money-lenders, including non-cultivating jepirdars, like the Nawab. The value of land in Jodhpur is very small, but is apparently slowly increasing. All statistics on the subject are vitiated by the rates of fictitious prices in deeds in order to defraud presentation, but the following figures showing average price, founded on an examination of all documents registered between 1863 and 1884, may be accepted as fairly trustworthy :—

Average price per acre of land sold in Jodhpur between 1863 and 1884.

Class	1863—1871	1873—1879	1879—1884	1883—1894
	Rs.	Rs.	Rs.	Rs.
Khallid ...	17	19	20	18
Baligh ...	11½	12	17½	19
Nawab ...	8½	8½	8	7½
Total ..	12½	12½	14½	13

530 acres of land in the Bangar, most of it in the best part of Gaj Circle, was taken up about 1874 for the new line of the Western Jumna Canal. The price Rs. 15,370, including Rs. 1,295 for walls, was fixed by private bargain with the proprietor. The average was Rs. 28½ per acre.

Fortunately the subject of sales and mortgages is not yet one of much importance in Kaithal. Comparing the revenue of the area concerned with the total revenue of the taluk before re-settlement, we find that 8 per cent. of the land has been sold since last settlement, and that 6 per cent. is under mortgage. The amount of land under mortgage has only doubled since last settlement and the mortgage debt is only 1½ times as large as it was then. The mortgage debt is over two lakhs. More than half the sales and mortgages are to agriculturists. In comparison with the state of things existing elsewhere, these figures are satisfactory. But the amount of unsecured debt in many villages is large. In a great part of Kaithal the money-lender looks more to the debtor's wife than to his land. He has no wish to make a risky investment by taking the latter on mortgage and becoming responsible for the payment of the revenue.

The figures for the different circles are summarised below:—

CIRCLE.	Per cent. of land sold.	Average price per acre.	Per cent. of land mortgaged.	Mortgage debt per acre.
		Rs.		Rs.
Sardak	2	5	3½	7
Bangar Kalibal ...	2	9	3	7
Do. Pindow ...	4	0	3	9
Aradwali ...	1	21	13	20
Naili Kalibal ...	4	10	9½	17
Do. Pindow ...	8	12	7	17
Powari ...	2	20	5	21

The amount of the transfers is largest in the Naili, which is the only unprosperous part of the taluk.

The apparent high proportion of mortgage in the small Amritsar Circle need not cause any anxiety. Very many of the mortgages seem to be old ones existing at last Settlement, and still unredeemed. The revenue of the land under mortgage at last Settlement was Rs. 1,527, that of the land now under mortgage is Rs. 2,054.

SECTION F.—LEADING FAMILIES AND CHAUDHRIS.

192. The principal families in the Karnal district are—the Kunjpara family, the Mandals of Katal, the family of the Bhais of Arinwall and Siddhuwal, the Sardars of Shamgarh, Sikri, Dhanusa, and Lalitkot, the Panipat families, and the Sikhs.

193. The founder of the Kunjpara family was a Pathan named Nijam Khan. His ancestor came from Kutchhgar, and

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Leading Families and Chaudhris.

Below and
opposite and extent of
civil litigation.

Principal families.

The Notables of
Kunjpara.

Chapter III, P.

Leading Families and Chieftains.

The Raisuls of Kunjpura.

founded a village in Sialk called Gurgash,¹ which he held in jagir. Having left Sindh in consequence of family quarrels, Nijabat Khan with his follower Mahomed Khan came to seek his fortune in Hindustan. He entered the service of Munna Khan, Wazir of Lahore, and in two years was a commander of horse, when he came down to Wair Khurja Nasiruddin, of Radaur. Here he became a *Boddar*, sent for his family, and fixed his headquarters at Tiratri; one of the *zamindars* of the villages of Bidauli who had quarrelled with his relations, begged the assistance of his soldiers and gave him the *zamindari* of Kunjpura, which was then a swamp or nearly so. Nijabat Khan got some leases of the surrounding villages from the authorities, and gave them to Mahomed Khan, who wanted to build at Kunjpura. The Rajputs destroyed all he did. Nijabat Khan brought his troops over from Thoreti and settled them at Kunjpura, and from that time a deadly enmity sprang up between the Rajputs and Pathans. About 1729 A.D. a masonry fort was built at Kunjpura after a hard fight. The fort was first called Nijabatnagar. The cruelty of the Afghans having reached the ears of the *Chakildar* of Saharanpur he sent for Nijabat Khan; he refused to go, a force was sent, and the *Chakildar* Izai Khan was killed by one of Nijabat Khan's relations. The power of the Afghans increased, and Nijabat Khan made himself master of other lands. The Delhi Emperor hearing of the death of his *Chakildar*, sent for Nijabat Khan through Mulraj, Governor of Panipat, who enticed him to Panipat, and sent him a prisoner to Delhi, where he remained for a year. Khwaja Jaffir was sent to Kunjpura but was put to death by the servants of Nijabat Khan. Nawab Bangash of Farrukhabad interceded for Nijabat Khan, and he was released; and his estate Nijabatnagar, and other villages in number as noted in the margin, were granted him in jagir on condition of his restraining the Jats and Bajputa, who were taking advantage of the weak state of the empire to give trouble and commit excesses.

Family.	No. of VILLAGES.
Gidaili	2,162 including Nijabatnagar or Kunjpura
Kareli	6
Thoreti	29
Mukhatrai	24
Ram	3
Azmatpahar	45
Tiratri	15
Unknown	2
<i>Total</i>	150, valued at 5 or 6 lakhs of rupees. ²

On the invasion of Nadir Shah, Nijabat Khan supplied him with provisions and tendered his obeisance; he became a *Raisul*.

(1) "The Kunjpuras are credited in the earlier Government records as having come from 'Gurgash' in the Sindh country." By Sindh is, probably, intended in this case the country of the Upper Indus, for the large village of Gurgash in the Rawalpindi district is close to the Jhelum or Beas river in the Chink plain north-west of Attock; and the Pathans of Gurgash are especially given to claiming kinship with the Kunjpura chieftains. Thus in 1886, on the death of the last Nawab Mohammed Ali Khan, a Rawalpindi deputation duly appeared at Karol to offer condolences, and to take back with them the presents such attention was found to deserve."—*Moory's Punjab Chiefs*.

(2) This valuation is doubtless seriously exaggerated.

of 1,000 acres. The Mahratta army under Shander Bhaw plun-
dered Kunjpura, when Nijabat Khan was wounded, taken prisoner,
and died, some accounts say was slain, aged 75, at Panipat, in A. D. 1758. Ahmed Shah captured the Mahratta in A. D. 1758, and
set free Daler Khan, Nijabat Khan's eldest son, at Kunjpura,
having first enriched him with spoils from the Mahratta. Daler
Khan enjoyed his possession for 16 years, and died in 1778 A. D. He
was followed by his son Gulsher Khan. Daler Khan and Gulsher
Khan had a hard struggle to maintain their position against the
invading Sikhs, and some of the family possessions had to be
surrendered. In some other part of an estate was kept while the
remainder was given up; and the revenues of Tisotri, Singolay, and
Guthi (Gujarat), Gargach, Jau-miran, and Bahisopur are still shared
between the Nawabs and Sikh proprietors. Gulsher Khan died in
1804 and was succeeded by his eldest son Rahmat Khan; several
villages were given to his brother Muhammed Ali Khan in man-
agement, but on the death of Muhammed Ali Khan, the number of
villages was reduced to one, the fine estate of Bhara, and our land
in Kunjpura, which were afterwards held by his son Muhammed
Yar Khan. On the death of the latter Bhara reverted to the Nawab.

Rahmat Khan died in 1822, and was succeeded by his
eldest son, Bahadur Jung Khan, who died 1838. Two years
after, and was succeeded by his brother Obulao Ali Khan.
The latter died in 1849, where his son Muhammed Ali Khan
became Nawab. On his death in 1856 his eldest surviving
son, Ibrahim Ali Khan, a boy of six or seven years of age,
succeeded. He is now being educated at the Aitchison
College, and the estate is under the charge of the Court of
Wards. In 1800, during his father's lifetime, Bahadur Jung
Khan was awarded a life *jagir* of seven villages in *panjgona*
Kasaul by Lord Lake. This grant was valued at Rs. 2,000,
and lapsed on Bahadur Jung Khan's death. In 1811 Nawab
Rahmat Khan's jagir was valued at Rs. 12,000. The present
value of the management after deducting service compensation
is Rs. 30,000, but this includes a small *jagir* enjoyed by
a minor branch of the family. The large *zaka* of Kunjpura
were inherited by the late Nazab and he retained a considerable
area of land in *panjgona* Indri and Kharial by sale and
mortgage. The proprietary holdings comprise the *zaka* of
Bhara and portions of forty-six villages. These yield a rental
of Rs. 23,000 while the miscellaneous income from houses, rents,
etc., is about Rs. 14,000.

For the last 50 years the family has been distractred by
internal dissensions, the younger members being at constant
feud with the Nawab for the time being about the amounts
assigned to them as maintenance.¹

Chapter III, E.
Leading Families and Chau-
dhris.

The Nawabs
Kunjpura.

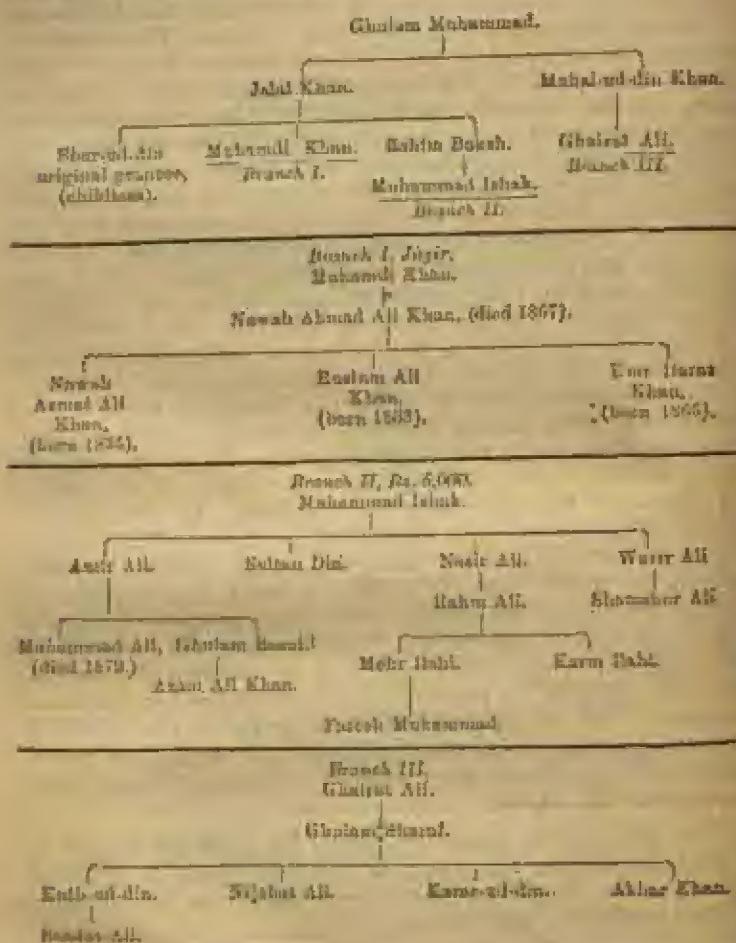
¹ For a full account of the family see for its general history
M. A. Fazal Khan, from the proofs of which part of the information
above has been derived.

Chapter III. F.

**Lodging Fam.
les and Chau-
dharis.**

The Kauria family.

195. The Mandals, or as they are sometimes called Marhals, are said to be a family of Minta Jats, or Jats who have been converted to Islam. They generally call themselves Pathans, and they affect the Pathan style of Khan to their names. They also sometimes assert that they are of Rajput descent, and the poor Muslim Rajputs occasionally marry their daughters to them : but under no circumstances would a Rajput marry a Muslim woman, and the latter marry only within the family, which being very limited in numbers, many of the girls remain unmarried. There is no doubt that they are of Jat origin, and came originally from Samana in Pabiala. The family tree is given below so far as regards the Kauria family, daughters are not shown in it :—



(1) According to talk to Sherry's Journal, Sherry's children (now) was son of Sultan Ali.

In 1780 A.D. Nawab Mujid-ud-daula granted to Nawab Sher-ud-din Khan the mukals of Musaffarnagar, Bharan, and Chitrawal in the Musaffarnagar district, on condition of his furnishing for Government service 200 horsemen fully equipped; and, on the death of the grantee in 1780, the grant was continued on the same terms to his brother Muhamdi Khan by Daulat Rao Scindia. In 1806 this Muhamdi Khan, with his nephew Muhammad Iskak and his cousin Ghairut Ali, was in possession of these estates; and, in accordance with the policy of Lord Cornwallis (para. 57), they were induced to consent to an exchange of their possessions in the Doab for an equivalent tract west of the Jumna. They accepted the proposal with reluctance; and it is said that the estimate that they submitted of the yearly rental of the Musaffarnagar estates, which they valued at Rs. 40,000, was much below the truth, the Collector of Saharanpur estimating the real income at Rs. 65,000. The 63 villages in pargana Karnal, which were then assigned to Government revenue, were estimated to yield Rs. 48,000 yearly income; and in order to induce them to accept the exchange the more readily, it was arranged that they should receive so much of pargana Karnal as had not been already granted to others, comprising very many estates not included in the above estimate, and should relinquish the Musaffarnagar service jagir, Muhamdi Khan retaining, however, a smaller separate jagir in that district, which had been assigned to him personally.

The transfer was effected by a grant signed by Lord Lake and dated 24th March 1806, which assigned to them in jagir the whole of the pargana with its fortress and town, with the exception of the sager, waz, jagir villages, zamia, panneth, &c.

The Mandals accepted the grant, but begged that some provision might be made for their children; and proposed that the pargana should be continued to their heirs on a fixed quit rent. The Supreme Government which, as before remarked, was only too anxious to get rid of lands west of the Jumna, and wished to make what was felt on both sides to be really a compulsory exchange acceptable, then added a supplementary grant, also signed by Lord Lake, and dated 9th April 1806, by which the grant was confirmed to their heirs "in fezzar or condition of paying for the same an annual rent of Rs. 15,000."

In pursuance of these grants, the three assignees were put in possession of the pargana on the 15th July 1806. The first was shortly afterwards resumed on military grounds, and Rs. 4,000 compensation paid for it. The Mandals immediately began to quarrel with each other, the chief matter of dispute being Muhamdi Khan's claim to be considered the head of the house. On the 16th July 1807 they divided the villages among

Chapter III, F.
Leading Families and Chieftains.

The Mandel family.

On Translations of such documents will be found in pages 319 and 320 of Mr. Hobson's Settlement Report.

**Chapter III, P.
Leading Families
and Chieftains.**

The Mandel family,

themselves by a deed attested by the Resident at Delhi, according to the following estimated annual value :—

	Rs.
Mahattul Khan	15,000
Ghazal Ali	13,000
Ishak Khan	12,000

the city of Karnal and one or two other estates being still held jointly.

Neither of the original grants had given any detail of the villages granted; but a list of the 83 villages assigned to revenue and estimated to yield the Rs. 48,000 was on the file; and in 1816 the Principal Assistant attached all the villages not included in this list, which constituted a very large proportion of the whole pargana. The Resident demurred, but held that the heirs (and one of the original grantees had just died) could certainly only claim the specified villages. The matter was referred to the Supreme Government, which in its letter of 15th March 1817 declared that the records at headquarters clearly showed that "the intention of Lord Lake," which was confirmed by the Governor-General in Council, was "that the Mandel chiefs should hold the pargana of Karnal "in jagir, and their descendants in biamur on the terms of "the second grant." The voluminous correspondence which ensued on the subject gives very full particulars of the history of the grant; and the papers forwarded with Supreme Government of India letter of 15th March 1817 to the Delhi Resident, which forms a part of it, show clearly that by "descendants" was meant "descendants to perpetuity."

**Most assignments
of revenue within
the Mandel holding.**

196. In 1842 it was found that the Mandels were enjoying the quit rent of the two villages of Gull and Walai, which were assigned at a fixed demand to a *Hajong* monastery in the former, and its branch in the latter village. Walai was many miles from pargana Karnal; but Government, N.W.P., in its No. 1333 of 20th July 1852, directed that they should continue in enjoyment. In 1852 a question was raised as to who should enjoy the revenue exacted upon the inordinate revenue-free tenures which had been expressly excluded from the grant, in the event of their resumption. The Government, N.W.P., in its No. 2636 of 26th June 1852, ruled that, though the Mandals were not entitled as of right to such revenue, which properly belonged to Government, yet the revenue exacted upon resumed revenue-free plots of less than 50 bighas might be relinquished in favour of the Mandals; that entire villages, when resumed, should invariably belong to Government; and that intermediate tenures should, in the event of resumption, be specially reported for orders in each case. Half the villages of Hakkilpur and Dingar Maars have since been resumed, and have reverted to Government, while

a ruined building of more than 50 ligahs was reported, and the annual revenue, which amounted to Rs. 14 mil., was, under the orders of Government, made over to the Mandals.

197. In the mutiny Nawab Ahmad Ali Khan did admirable service, and the Government of India, in its No. 1341 of 24th March 1858, to the address of the Chief Commissioner, Panjab, remitted the quit rent of Rs. 5,000 payable by him in favour of "him and the heirs male of his body lawfully begotten in perpetuity," thus converting his *itamwarai* tenancy into a *jagir*. But the actual words of the grant would seem to be to "him and his male issue from generation to generation," and it is not clear that there was any limitation as to legitimacy. At any rate the two brothers of the present Nawab Asmat Ali have been declared to be lawfully begotten.

198. In 1860 the Government of India affirmed the advisability of instituting primogeniture in tenures of this nature: the Panjab Government inspired the wishes of Nawab Ahmad Ali (see Government Circular No. 2 of 25th May 1860); and it has been held by the district courts in Asmat Ali's case of 1880 that Ahmad Ali executed an agreement to that effect, which had no binding value.

199. No sooner had the Mandal family settled in their new home than they began to quarrel among themselves, and their descendants have followed their example with ardour. The family was too now and too limited, and their new style of too recent origin, for any custom worthy of the name to have grown up; and each was anxious to make for all the rules which suited his particular predilections or interests. By 1815 these disputes had risen to such a pitch of acerbity that they reached the ears of Government. For the next 10 years the Collector, the Commissioner, and even the Lieutenant-Governor himself, vainly endeavoured to induce them to come to some understanding, and to agree to some set of rules which should regulate the future interests of individual members of the family. In 1850 a proposal was before the Supreme Government for legislation which should make such family arrangements binding; and the paper to be drawn up was at first intended to be brought under the proposed law. Later on, nothing further was contemplated than to obtain an agreement to which the courts would probably attach more or less weight, and which would, at any rate, be acted upon privately.

In 1843 arbitration was resorted to; in 1850 a code was drawn up; but in neither case was the consent of all the Mandals secured. In the minute laying down lines for the revision of assessment of 1852, the Lieutenant-Governor urged further efforts to induce them to agree upon a code of rules, if they refused, "they must be left to fight their own battles, and ruin

Chapter III. F,
**Leading Families and Chau,
dhris.**

*Contract of part
of the property into
jagir.*

*Primogeniture
among the Mandals.*

*Rules of Mandal
Custom.*

Chapter III, Part

Leasing Families and Chauhras.

Record of Mandal custom.

themselves." In 1852 and again in 1855, further drafts were prepared; but again objections, more or less frivolous, were raised. To the last code only one objection was raised and that only by one member of the family. Nevertheless, apparently satisfied with the futility of all attempts to obtain complete agreement, Government abandoned the attempt to frame any administrative paper for the Mandals. In Government No. 3826 of 23rd December 1855, laying down the lines on which the revision of 1855 was to be conducted, the Lieutenant-Governor wrote:—

"It is not in the power of Government to compose these differences and to establish definite rules by any arrangement prescribed by means of its own authority. The istamari tenure is subject in all respects to the ordinary operation of the laws and courts; and the hereditary grant, by the Sanad of 6th April 1806, is generally to the 'heirs of the three first grantees.' The claims of all persons who may be entitled to any portion in the inheritance must be received and determined by the court. The proposal to form a binding charter-ul-amal under the superintendence of the Government officers can therefore no longer be persisted in, and the subject must be left to the voluntary agreement of the parties themselves, or to the courts for judicial decision."

This was written, of course, long before the Pensions Act of 1871; but the principle here affirmed has been followed by the Punjab authorities in their action in the case of Armat Ali Khan (See Punjab Government No. 570 of 4th May 1878). Appendix A to Mr. Ibbetson's Settlement Report contains a complete abstract of the various customs of the family as fixed by the arbitrators in 1848, and as agreed to or dissentient from in the four codes dated 1st April 1850, 30th October 1850, December 1852, and 24th July 1855. A discussion of the nature and incidents of the Mandal tenure will be found on pages 212–215 of Mr. Ibbetson's Settlement Report.

Present condition of the Mandals.

200. The constant and bitter disputes which have been rife among the Mandals ever since their first settlement in Kartal, have had the effect which might have been expected upon their patriarchal family. Other causes, too, have contributed to their decay. As each generation increased the number of the family, the sons, all sharing in the inheritance of the father, not only were relieved from the necessity of earning their livelihood, but also felt it incumbent upon them to keep up as far as possible the style which was traditional in the family on a reduced income which was quite insufficient for the purpose. Being almost without exception uneducated, they fell wholly into the hands of an unscrupulous band of rapacious stewards, who found their interest in introducing them to money-lenders as unrepentant as themselves. The decadence of the family began early. In 1817 Sir Charles Metcalfe wrote:—

"They have suffered much since they were established in Kartal; and the period of their prosperity was the commencement of the decline of their prosperity. Their responsibility,

in all external appearances, has been dwindling away before my eyes in the course of the last ten years. It may be said with justice that their decline is in some measure owing to their own mismanagement; as they received an extensive district capable of great improvement. It must, however, be admitted that something unfavourable in the change must also have operated; otherwise why did not their poor management ruin them in the Bush, where I remember meeting them in 1806, equipped in a style of considerable pomp and splendour? Their present appearance is very different; and their tone to me since 1806 has invariably been that of complaint."

Of course the position of a jagirdar was very different under Native and British rule; and this difference would have been felt even if the Mandals had remained in the Bush. On the point of mere income, they have little to complain of. The revenue of the assignment at different periods is shown below:—

Year.	Assigned revenue	Owner's share	Total revenue	Quit rent	Net revenue
1806, estimate	Rs. 19,940	—	Rs. 46,000	Rs. 15,000	Rs. 31,000
1817, settlement	Rs. 1,01,956	—	Rs. 1,04,260	Rs. 3,000	Rs. 1,01,260
1852, revision	Rs. 1,00,001	—	Rs. 1,00,301	Rs. 3,000	Rs. 97,301
1856, do,	Rs. 90,257	—	Rs. 90,367	Rs. 3,000	Rs. 87,367
1874, current demand	Rs. 11,113	—	Rs. 90,023	Rs. 3,000	Rs. 87,023
1882, revision	Rs. 60,570	Rs. 2,293	Rs. 73,263	Rs. 3,000	Rs. 70,263

The assessments of 1847 and 1852 were never really realised, so that the reduction effected since then is partly nominal. Even excluding from account the remission of Rs. 5,000 quit rent in 1858 on account of special services, the net revenue is still Rs. 60,263 against Rs. 25,000 estimated in 1806. And the Bush was so comparatively fully developed in 1806, and the limitations of the Government demand which have been introduced since have been so considerable, that it is highly improbable that the revenue of their oil holdings will now amount to so much as that of their present estate.

The present Mandals are by no means favourable specimens of Indian gentry. Ahmad Ali was a thorough gentleman, and a fine, intelligent, and active man. Muhammad Ali, who is just dead, retained much of the old style. But Azmat Ali, the present Nawab—for only the head of the family has a right to the title, though the other members are commonly called so—has been unfortunate, as all his father's care was spent on his elder brother, who died before him; and Azmat Ali is uneducated and unintelligent, though thoroughly amiable and respectable. His legitimised brothers have gained a decree for two-thirds of his estates and four lakhs of rupee profits; and the result must be disastrous. Of the other members of the family, too many are ignorant, dissolute, un-intelligent, and wantonly extravagant, and their estates are heavily encumbered.

Chapter III, P.
Lodging Families
and Chauhdars.

Present condition of
the Mandals.

**Chapter III, V.
Leading Families
and Chieftains.**

*Present condition of
the Mandals.*

with data. Even now the adoption of primogeniture would go far towards saving them; but in default of this, it is to be feared that they must inevitably degenerate into a horde of petty assignees, such as we have in Panipat.

The present state of the grant is shown below.

The revenue is that of the whole estate, inclusive of subordinate assignments, leases, and the like.

No.	Name of Mandal holder.	Revenue in Rs.	Rate per acre.	Owner's share.	Total revenue in Rs.	Rate per acre.	No. of acres under cultivation.
I.	I. Nawab Ali Khan, with his two brothers Huzur Ali Khan, Dara Dara Khan in equal shares	25,19,717	4,512	21,260	1
	II. Aslam Ali Khan	13,9,487	1,020	10,387	2,300	2	
II.	3. Faizul Muhammad	6,3,005	1,435	5,081	1,200	1	
	4. Kurni Shahi Khan	10,6,371	725	7,700	1,200	1	
III.	5. Shamsuddin Ali Khan	1
	Trust of family	31,21,831	8,000	25,000	8,000	4	
III.	6. Riazuddin Ali Khan	7,5,671	1,000	7,577	1,250	1	
	7. Karimuddin Ali Khan	7,3,681	1,111	6,792	1,250	1	
III.	8. Nisaruddin Ali Khan	7,5,231	725	5,666	1,200	1	
	9. Alber Khan	7,4,426	1,000	6,916	1,250	1	
Total of family		90,19,010	6,862	76,362	8,000	4	
Total of estate		(3)	(3)	60,470	14,395	25,000	10,000

The share of
Arnull and Siddhuwal.

60. An account of the Kaithal family, the present representatives of which are Bhai Jarnot Singh of Arnull and his son-in-law Amrit Singh of Siddhuwal, has been given in part. 62. The net revenue of their jagirs, after deducting commutation, is:—

	Re.
Arnull	18,712
Siddhuwal, including revenue of Budlaia villages recently transferred to Bissar	19,000

(3) 6 estates are shared equally between the three families. In addition Nos. 1, 2 and 6 have one estate jointly, No. 4 having one-half, and Nos. 5 and 9 one-quarter each.

Both the Bhais have small jagirs in Ambala and Ferozepore, and Arnall has a jagir of the net value of about Rs. 1,600 in Jadhiana.

202. The Shamgarh family derives its origin from one Kirpal Singh resident of village Gudha in pargana Bhatinda. When a boy of 10 years of age, he came to Jadhwa with his sister Mai Karmi, who was wedded to Sabab Singh, brother of Gurdit Singh, Raja of Jadhwa. Shamgarh was bestowed upon him in reward for the services rendered to the confederacy of Sikhs in the conquest. This estate was in his direct possession when General Lake arrived at Karnal in the year A. D. 1804. Kirpal Singh died in 1830, leaving as his heirs Deva Singh and Fateh Singh, who subsequently divided the estate. Fateh Singh's share, known as the Sagajagir, is now held by his grandson, Surapuram Singh, a child of ten years of age. The rest of the original jagir, which retains the name of Shamgarh, is in the possession of Ram Singh, son of Deva Singh. He is a well behaved man, but he has unfortunately run into debt, and does not live on good terms with the raiwind ra. He and his brother Kanl Singh, who died childless, did good service in the mutiny, and got a commission of the commutation for one year.

203. The present Sardar of Sikri is Tiloc Singh, a young man of 23 years of age. He succeeded in 1882 on his father's death, who left the estate in a very embarrassed condition. He is the descendant of Bhag Singh, a khaladar of the Raja of Jadhwa.

204. The Sardars of Dhamaura and Lakhari are descendants of Susha Singh, an officer of the Maharaja of Patiala, who was put in possession of Dhamaura, when the Maharaja wrested it from the Nawabi of Kunjpur. Sabib Singh was in possession of the whole estate, which consists of nine villages, seven in Karnal and two in Ambala, in 1809, when the Ghorakot chiefs were taken under the protection of the British Government. He died in 1842. After his death a complete division of the estate was made between his son, Natha Singh, and grandson, Amr Singh. The villages assigned to the latter were henceforth known as the Lakhari jagir. Natha Singh and Amr Singh both did good service in the mutiny. The latter died in 1887. Sardar Natha Singh's share is now in possession of two of his sons and three of his grandsons.

205. The net income of the jagirs of the Indri pargana and Kallial tahsil, after deducting commutation, is shown in the annexed statement. The term major jagir is meant to indicate that the payment falls under the description of "large estates" as defined in a letter No. 207, dated 1st January, 1842, from the Secretary to the Board of Administration to the Commissioner, Ch-Sahib States, (see Punjab Revenue Circular No. 37, paras. 76 to 77).

Chapter III. F.

Leading Families and Chauhdars.

The Sardars of Shamgarh.

The Sardars of Sikri.

The Dhamaura and Lakhari Sardars.

List of jagirs of pargana Indri and tahsil Kallial.

Chapter III, V.

Leading Families and Chauhdhirs.

 List of jatis of
persons taxed and
not taxed.

Class.	No.	Name of jati	Rate of communi- cation.
	1	Kanjpur	10,000
	2	Azarnall	12,572
	3	Bal Bhawal	2,021
	4	Bhinder	2,106
	5	Bhinder	2,106
	6	Bhangat	8,017
	7	Bam	1,061
	8	Bhal	2,000
	9	Bheri	1,000
	10	Bhutkall	200
	11	Bidur	200
	12	Bilka	450
	13	Bassi Bhawal—Bali	122
	14	" " Tibbi	722
	15	" " Chhipar	2,000
	16	" " Khapuri	1,275
	17	" " Dhuri	1,275
	18	" " Bokha	2,000
	19	" " Ghergarh	700
	20	" " Chisopur	100
	21	Basti Baldepur	747
	22	Bhatti	1,472
	23	Bhatkoti	450
	24	Bhand Bhawal	2,000
	25	Bodhjpur	—
	26	Borwala	579
	27	Bosabhi	400
	28	Bosakot	100
	29	Bosakot	707
	30	Bosakot	1,000
	31	Bosakot	242
	32	Bosakot	250
	33	Bijwanwali	800
	34	Bosakot—Khudakshapur	100
	35	Bijwanwali	100
	36	Bijwanwali	100
	37	Birbawali	100
	Total		82,412

All these jatis are held by Sikhs, except Nos. 1, 32, 34, and 36. In all the patildari jatis except No. 33 the owners have the status of 1800 (Panjab Revenue Circular 37, para. 95).

The revenues of the villages of Ramthali, Atela, Ladana Baba, and Dhadphacheri in Raithal have been released in perpetuity in favour of minasidars, and that of Pilum in favour of certain Brahmins of Amritala and Kheraspore.

(1) Includes a revenue of 24 villages held by the descendants of Khan Ali Khan, the rate of communication being 10%. It is also distributed in Blana, which reverted to the Nawabs on the death of Muhammad Ali Khan (para. 194) and in three estates, which were formerly included in Raithal Parganah.

(2) In No. 30 this status has not been given to express, because, as far as is known, it is released in perpetuity to the descendants of a lady who died in 1825, the name is the same.

306. When the tract was first brought under settlement, the Colonel John Skinner, who made such a name for himself as a leader of irregular horse in the earlier years of this century, and whose biography written by Mr. Fraser forms such an interesting sketch of those times, obtained in fact a considerable number of villages, for the most part small ones, which had been more or less abandoned by the communities who owned them. He also took up the engagements for several of the larger villages, the proprietors of which had refused to accept the assessment. His management was vigorous and successful, he expended a great deal of capital in extending cultivation and introducing irrigation, his careful personal supervision ensured the success of the undertaking, and the Government officials of the time constantly bore hearty testimony to his qualities as a landlord. The people, who knew him as Skinner, speak no less admiringly of him. Their common expression with regard to him is "Wish to hadikha tha"—"Ah! he was a king." He was a strict landlord, insisted upon receiving his dues, and made his speculation exceedingly profitable; he ruled his villages with a strong hand, and stories are still current of the evil fate that befell malcontents who complained against him. But he understood and liked the people, and treated them as they would be treated; he was personally known to all of them; he managed them through their own elders and heads much of the headmen; and he knew how far a little reasonable liberality goes, and by distribution of turbans, a supply of armaments for all who came to him on business, by keeping his ear open to all grievances, and giving substantial ready relief in really bad cases, he won their hearts and their confidence.

307. At the regular Settlement many of the large villages which he then held agreed that his farm should be continued, and refused to engage themselves. Most of the small villages, which had come to him in a very low state, were then fully occupied by the original owners, each of them as had abandoned their houses having returned on matters improving. Mr. Fraser, the first Settlement Officer, offered engagements for these villages to the resident owners; but the Commissioner quoted a ruling of the Sadr Board to the following effect:—

The reclaiming of waste land had always been considered by natural law and right to confer the best title to property. In this country reclaiming waste land by the permission of the Government has always, as far as the Board is aware, been taken as the best title. Under this view nothing can be more erroneous than the course which, for a certain interval, appears to have been followed in India of taking away lands from those who had enclosed, populated, and continued to occupy them, and giving them to those who came forward when they found a valuable property secured to their hands. The groundless traditions of sectional or ancestral possession. When land has been deserted, it reverts, and reverts to its natural owner, and no one is bound on the spot to maintain a claim to property or possession, it is the

Acquisition of vil-
lages in property
right by the State
area.

Chapter III, F.
Leading Families and Clans.

Acquisition of villages in proprietary right by the Skinner.

undivided right of Government, whose duty it is to promote the perfect cultivation of its territory, to enthrone any person who is willing to occupy the waste, and such occupant ought, both in practice and policy, to be considered the owner."

This ruling referred to lands in Bariana, which had been "settled and reclaimed by immigrants from foreign parts;" and the villages here in question had been settled and reclaimed by the original owners, with the assistance of Colonel Skinner. The settlement officer, therefore, vigorously protested against the application of the rule; but the Commissioner directed that the engagement for the revenue should be made with Colonel Skinner, leaving the owners' claim in the records blank. His merits as a landlord were well-known, and in only two cases was any effort made to dispute these orders. The settlement of all these villages was made with Colonel Skinner at specially reduced rates, in consideration of the capital he had expended upon them. Colonel Skinner died in December 1841; and his eldest son, Major James Skinner, succeeded to the management of the family estate. The management would appear to have changed for the worse; for in 1858 the Collector reported that every single village complained of it. A few years later Major Skinner died, and was succeeded in the control by Mr. Alexander Skinner. The tillers attempted to have their farms cancelled on this occasion, but were unsuccessful. In the recent Settlement all the farmed villages have taken up their own engagements.

In 1851 the Government, N. W. P., issued a notification No. 4158 of 28th November (see Punjab Revenue Circular No. 8 of 11th February 1852), directing that in all villages in which no owners had been recorded at Settlement (technically called khana khali villages) an investigation should be made, and where no very clear title was shown by other parties, the former with whom the settlement had been made should be declared owner and recorded as such, other claimants being referred to the civil courts. An investigation was accordingly made, and the Skinner family declared owners of all the villages held in farm by them which fell under the above description. Some few of the villages sued for proprietary rights, but failed on the ground of long adverse possession on the part of the Skinners. There is not the least doubt whatever that in almost all these villages the original proprietors were then residing and cultivating their ancestral fields; and it is almost certain that the villages were not wholly abandoned when they first came into Colonel Skinner's hands. The owners no doubt returned gradually, as they did in all the small villages of the tract, and very probably some of them were induced to return by Colonel Skinner, and it is certain that he spent much money upon the villages, and greatly improved their condition. During the recent Settlement the old owners who still reside in the villages sued for rights of occupancy and without any excep-

tion obtained them on the ground that they had been dispossessed of their proprietary right, and had cultivated continuously since dispossession.

Chapter III. P.
Lodging Families
and Chautharis.

Panipat families.

203. The city of Panipat, considered as a landed estate, is divided into four *tarafs*, or separate estates held by the Rajputs, the Ansaris, the Makhdoomzadas, and the Afghans. These families are of sufficient importance to demand a brief notice of each. The Panipat Ansaris, or helpers of the prophet, are descended from Khwaja Abdullah Pir of Herat, one of whose descendants, called Khwaja Malik Ali, was summoned from Herat by Sultan Ghiyas-ud-din Balban on account of his repute for learning, and settled at Panipat. They intermarry only with Ansaris, Pirzadas, and the Sayyids of Bareat and Sripur. Many celebrated men have sprung from this family. Among the most celebrated are—

- (1). Khwaja Abdur Rehak, Bakhshi in Alauddin's reign.
- (2). Khwaja Muayyid-ud-daula Dilawar Khan, and his brother Zakaria Khan, sons of (1) and respectively Viceroy of Kabul and Governor of Lahore at the time of Nadir Shah's invasion.
- (3). Lutfullah Khan Sadiq Shams-ud-daula Tashawur Jang, also son of (1), tutor to Azim Shah, warden of the Fort at Delhi during Nadir Shah's invasion, and Wazir to Bahadur Shah, Farrukhaiser, and Muhammad Shah.
- (4). Shakrullah Sher Afgan Khan Izzat-ud-din-iis, also son of (1), subadar of Tatta.
- (5). Muhammad Ali Khan, grandson of (3), and author of the *Tarikh-i-Muzaffari* and the *Bahrulmawaj*.
- (6). Abdul Mulk, a celebrated saint described in the *Ain Akbari*.

The Makhdoomzadas or Muhajiria Arabs are descendants of Abdur Rahman of Ghazwan, who came to India with Mahmud of Ghazni, settled at Panipat, and had a descendant, Sheikh Jalal-ud-din Kahi-i-kulia Makhdoom, from whom the family is sprung. His shrine has a nim tree, the leaves of which are a sovereign remedy against *bhat*; and no *bhat* ever attacks a Makhdoomzada. They intermarry with Ansaris and Makhdoomzadas only. From this family are sprung—

- (1). Nawab Mukarrab Khan, Governor of Gujarat in Jahangir's time.
 - (2). Sheikh Harn, grand-father, and Sheikh Bina, father of (1), very celebrated surgeon.
- The Afghans, or Sherwani Pathans, descended from Malik Sherwan Khan, who is said to have come to India with Mahmud Ghaznavi. They marry only Pathans.
- The Tuwar Rajput family said to be descended from Raja Anand Pal of Delhi. The hereditary chauthri-ship of pargana Faridpat belongs to this family.

Chapter III. P.
Leading Families and Chauhdars.

Chauhdars.

209. The two hereditary *chauhdars* of *pargana* Karnal and Pampal, are Abdal Karim, Chauhan of Jandla, and Riasat Ali, Tunwar of Pampal, both Rajputs. There was a *Jat chauhdari* of Bala for the small group of villages belonging to Jind, but the office dated only from recent times. Both these *chauhdars* have been *mazdoor* *sardars* of their respective mails. Under the Emperors, the Jandla *chauhdar* always enjoyed a considerable assignment of revenue, as shown by grants now in the possession of the family. Till the transfer of the Karnal *pargana* to the Mislals, he used to receive an allowance of 7 per cent. on the revenue of the *pargana* as *nankar*. In 1820 this was commuted for an annual payment of Rs. 300 which the Mislal assignees continued to pay till 1850, when they objected to continuing the allowance on the ground that a Regular Settlement had been made. This objection was accepted, and the payment ceased. The chief Chauhan Rajput family of Raunbia enjoyed a small revenue grant under the Emperors. One member of the family is now *sardar* of the Raunbia circle.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

SECTION A.—AGRICULTURE AND ARBORICULTURE.

210. Table No. XIV gives general figures for cultivation and irrigation, and for Government waste land; while the rainfall is shown in Tables Nos. III, IIIA, and IIIB. Table No. XVII shows statistics of Government estates. Table No. XX gives the areas under the principal staples. Statistics of live-stock will be found in Table No. XXII. Further statistics are given under their various headings.

Chapter IV, A.
Agriculture and
Arboriculture.

General statistics of
agriculture.

The seasons. Agri-
culture calendar

211. The total annual fall of rain and the manner in which it is distributed throughout the year are shown in Tables Nos. III, IIIA, and IIIB. The agricultural or *fasti* year begins, according to the almanac, at the middle of Chait, but in practice the agricultural year begins with the day after *Dasahara*, or the 11th of the second half of Jeth, on which date agricultural partnerships are formed for the ensuing year. The year is divided into three equal seasons, the hot season or *karm*, including Phagan, Chait, Baishakh, and Jeth; the rains or *charumara* including Sarb, Sawan, Bhadon, and Asoj; and the cold season, *sainhe jada*, including Kartik, Margasir, Poh, and Magh. The two harvests are known as *mavni* for the autumn or *harif* crops, and *urhi*, for the spring or *rabi* crops. Work begins with the first rains or, when irrigation is available, even before that. Maize and cotton are sown, and a little early *jowar* sown and irrigated for the bullocks. As soon as rain falls, the land is ploughed up for the autumn crops. When they are once sown, they do not require very much attention, as most of them are not irrigated at all. But the cultivator is hard at work, ploughing his land for the more valuable spring crops; and it is the amount of labour then expended on the ground that chiefly decides their out-turn. When it is too wet to plough, there are the banks and ditches to be looked too, one to be tied up, and plenty of odd jobs to occupy the time. With the cessation of the rains comes the busiest season of the year. The land has to be finally dressed and sown with the spring crops, and the autumn

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The ~~annual~~ Agricultural calendar.

crops have to be harvested. During the cold weather the irrigation and weeding of the spring crops absorb most of the available labour; but if good Christmas rains (*mahawat*) set the bullock free from the well, land will then be ploughed for sugar-cane, tobacco, and even for the autumn staples. Irrigation is continued almost up to the spring harvest, which generally comes with a dash, all the crops ripening almost at once; and labour at this season often reaches extraordinary prices. When the spring crops are fairly gathered, little can be done beyond finishing up the tobacco, watering the cane, sowing early maize and *jowar* for the cattle, and getting in the maize and cotton; and even this can only be done where irrigation is available. Consequently this is a season of comparative leisure; and the people occupy themselves, the stars permitting, in marrying themselves and their neighbours.

The weather.

212. The east or cold damp wind (*parva*) is the abomination of the cultivator. It breaks, especially when the weather is cloudy and the ground wet, all sorts of pests and diseases, animal and vegetable; and the only point in its favour is that it does not dry the land and shrivel up the plants, as the fierce west wind will do, and that it is often the precursor of rain. It is especially obnoxious when the pollen is ripe and the grains forming, or about Asoj and Phagan. The west or hot dry wind (*parchu*) on the other hand, if it is not too strong, is hardly ever unwelcome so long as there is plenty of rain; for it does no harm beyond drying things up. It is especially desirable when the plants are young, as it forces them on; and again when the grain is forming; and again when the crops are ripe; but if too strong or too hot, it is called *shala*, and blows off the pollen, shrivels up the grain, and blows down the plants: while in autumn it dries up the moisture upon which the spring sowings depend. After the spring crops the fiery hot wind cannot be too fierce, or too continuous, as it dries the grain and makes winnowing easy; and, best of all, it presages a good rainy season. Rain can hardly be too plentiful, in the autumn at any rate, till the pollen forms. While that is ripening, rain washes it off and does much harm; and again when the grain is ripening rain rots it and diminishes the yield. But the injury is reduced to a minimum if a good west wind is blowing. And rain, after the crops are out, is especially injurious, as the produce rots on the ground; and even if the grain is saved at the expense of the straw, the cattle suffer from want of fodder. The ideal season is one in which rain falls early, so as to allow the autumn crops to be sown over a large area; and falls in sufficient quantity at the end of the rains, so as to leave the ground moist for the spring sowings.

Wheat times and harvests.

213. The approximate sowing and harvest times are given on the opposite page. These are the ordinary times. In an exceptional season the sowing may be further delayed a fortnight or even more, but to the injury of the produce:—

Chapter IV. A.

STATE.	Sowing time.		Harvest		Agriculture and Ashoreculture. Seed time and har- vest.
	From	To	From	To	
Uttar	1st June	15th July.	10th Oct.	15th Nov.	
Muzo	15th "	"	2nd Dec.	15th Decemb.	
Dehra Dero	15th "	"	2nd Decemb.	"	
Bajra	15th "	"	10th—15th	24th "	
Jowar	1st July.	25th August.	20th Oct.	20th Nov.	
Gram	1st Sept.	15th Oct.	1st April.	15th April.	
Wheat	20th Sept.	1st Nov.	15th "	20th "	
Barley or mixture of wheat, gram, and barley	1st Oct.	1st Dec.	1st April.	15th April.	

For the *Kharif* crops rain is most needed in June and the first week of July, and it cannot be too plentiful. They are also greatly dependent upon the rains in the end of July and first half of August. If it is either too plentiful or too scanty, it injures the crops. Too much rain at the end of September also hurts the crops, as it washes off the pollen from the flowers. For the *rabi* crops rain is most needed in Blander (15th August to 15th September) and first half of Aug (rest of September), when it can hardly be too plentiful; cold rain in December and January is also most beneficial. Rain after the first week of March is injurious. In both crops rain at harvest time does infinite damage, as the grain when cut lies in the fields for weeks, and both it and the straw are liable to damage from wet.

214. The main kinds of soil have been described in para. 4. The yield of "khada" in the Khadar is always poor; and if there is much rain, the soil becomes so soft that the crops fall down. At the same time it is cool, and retards its maturing for a long time; and when the covering of mud is thin and overlies hotter soil, which is only very occasionally the case, very good crops are produced.

Bakar is terribly stiff and hard to work, and will yield nothing without water. But when there is plenty of that, the better sort of *bakar* gives splendid rice and gram crops, one after the other, in the same year. The *kader dahe* commonly found in the Nardak is a very treacherous soil. It yields only coarse rice. In a really good season, the out-grow is heavy, but without floods or heavy rains early in the season the land cannot be sown at all, and the crops are often ruined by too much rain in September.

214. Table No. XIV gives details of irrigation. Further information will be found at pages 177 to 203 of Major Wau's *Yamuna Report*, compiled in 1878. At that time 20 per cent.

soils.

Hours of irrigation

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Arboriculture—**

Wells.

of the cultivation was returned as irrigated from canals, 19 per cent. from wells, 1 per cent. was flooded, and the remaining 60 per cent. was wholly dependent upon rain.

214. The following figures show the number of wells then reported as existing in the district, with certain statistics regarding them:—

Number of wells.	Drown in water in feet.		Cost in Rupees.		Buckets per minute in hours.		Area irrigated per wheel bar- row.	
	From	To	Number	With- out Mas- tery	Number of pours	Cost in Ru.	End of Hour	Sowing
1,250	30	40	160	8	2	100	33	6
2,712	40	40	220	10	2	200	22	5
125	30	40	200	—	6	400	20	7
1,461	40	50	100	—	4	50	33	7
982	Altogether	—	800 to 1,250	—	4	300	40	6

The irrigation is usually by Persian wheel in the Khadis and in the Piplwala tract to the north of the Gugger; and elsewhere by rope and bucket.

215. The following table shows by assessment circles the statistics relating to masonry wells compiled at the recent settlement of Julli and Kasilal:—

Circle.	Assessment Circle.	Number of wells.	Average depth in water in feet.	Average cost of excavating well.	Average area irrigated per well. ⁽¹⁾
JULLI	Khadis	220	10	200	1
	Banur	300	25	100	0.2
	Piplwala	220	45	550	1
Total		1,740	...	...	—
KASILAL	Piplwala	612	15	200	0
	Julli Piplwala	220	15	225	0.1
	Nosil Kasilal	120	25	200	0
	Andhera	313	25	200	0.2
	Gugger, Jallana	804	50	150	0.1
	Gugger, Kasilal	101	50	150	0.1
	Mardak	78	70	600	0.1
Total		4,910	...	...	0.1

(1) See also page 228.

The figures for Kangra are exclusive of wells in eight circles of the southern Guleria Circle transferred from Pipli. In the case of the Indri parsons and of the Behowar Circles in Kangra the average area irrigated per wheel or bucket has been shown in the last column. There are a good many wells in Kangra with more than one bucket or Persian wheel. The average area irrigated in Kangra is the average of 3 years rabi 1884 to Khuris 1886, for the two Pohana Circles of Pipli of the three years Khuris 1884 to rabi 1886, and for the circles included in the old Kangra table of the four years, Khuris 1883 to rabi 1887. The cost of well-sinking in the Kangra Nariak and Bangar has perhaps been under-estimated in the table. Irrigation in these two circles is confined to the northern villages bordering on the Burnai valley.

214. The method of well-sinking and the religious ceremonies which accompany it are described in paras. 404—407 of Mr. Ibbetson's Settlement Report.

215. In the Kangra unbrick-lined wells are made by digging out the sand and leaving the lower part, which is of greater diameter than the upper, with a covering (jhal) of coarse whitish of jhool or simbhal or jutti. They are made in a few days, and at a cost of Rs. 5 to 10, spent in buying the lining, and feeding the friends who come to help in the digging after water is reached, which must be hurried on. They fall in during the next rainy season. There were 130 such wells or unbricked wells in the Indri Khadir at Settlement.

216. The driving gear in a Persian wheel will cost some Rs. 15, and last 6 or 8 years. The lantern wheel and subsidiary cost about Rs. 10 more, and only last about a year. The end of rope ladder, on which the earthen pots (bindi), which raise the water, are fastened, is made of horse, always of skin, which resists the action of water better than any other fibre. The whole gear is said to include 200 separate pieces of wood, which enjoy some 70 or 80 separate names among them.

The leather bucket (*charan*) in a charan well consists of a buffalo hide bag swung from an iron ring and handle (*mardal*). It is drawn up by a strong rope (*tar* or *tar* of cow skin), and passing over a small smaller wheel (*khos* or *chak*) fixed over the well. The oxen who draw it run down an inclined plane (*gagan*) dug out by the side of the well, the driver sitting on the rope to bring the strain more horizontal, and return by a low steep incline parallel to it. When the bucket reaches the top, the man who stands at the mouth of the well seizes the rope and pulls the bucket on to a massive platform (*pahar*) on which he stands. He then bids the driver unloose the rope. This releases the bag, which collapses, and the water shoots into the cistern (*parcha*). The empty bucket is then hung into the well, the rope being held under the foot to prevent it falling too quickly. When the oxen reach the top, the rope is fastened

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*Water-wells in
India and Kangra.*

Well-sink.

Unbrick wells.

Well gear.

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on again, and the operation recommences. The directions to the driver, intermingled with prayers for protection, are delivered in a ring, the beams of which the bullock can learn to recognise, and stop, turn, and start at their own accord at the proper moment. The work at the well mouth is very dangerous, as any mistake will precipitate the man into the well. The bucket costs Rs. 8 to 10 and lasts a year; the iron ring and wheel Rs. 3 each. The tool is made at home. The bucket will lift 320 to 350 pounds of water each time, and there is no waste. The average well is worked at a much greater cost of labour, but it is a much more efficient means of irrigation than the Persian wheel. For irrigating with the bucket 16 men are needed; two men to catch the bucket (beiria or bairwala from here bairi) working half a day each, as the labour is very severe; two drivers (chambi or killa from killi the peg, which fastens the bar to the yoke) and one patiari to look after the channels and let the water enter slowly into the irrigation beds. There should also be four yoke of oxen, two working at once, one running up while the other goes down the incline, and changing at noon. The well is worked from dawn till dusk, with 8 hours rest in the hot weather. Four yoke of oxen will water 8 to 10 acres in five days according to the depth of the well; two yoke will water $\frac{1}{2}$ to 3 acres in the same time.

The labour at the Persian wheel is much easier, as expressed by the saying "Heraf ki ankhi se chalta," "one eye is enough for a horse" for the driver (gaderia) who sits on the beam to which the yoke is tied may be blind, and the patiari only needs one eye. But of course a man for grass is needed. It is better to have four yoke of oxen to change every 3 hours, as the rotary motion soon tires the bullocks, but there are very generally only two. A Persian wheel will water 8 acres of land in five days, and a good deal less if the soil is very sandy.

Wells are seldom the property of a single person. The shareholders irrigate in turn for a day or half a day each, according to a rate (tarif, wazir) fixed by lot.

210. Irrigation from tanks, clashed in crop returns as abhi, is practised to a small extent, especially in the Nardak. The method is the same as is followed in canal irrigation by lift.

Watering from tanks is mainly used as an auxiliary to irrigation from wells situated in the homestead lands. A cultivator is loth to put up his well-gear in the hot weather, and, if the rains are good, the maize will ripen without artificial irrigation, and our watering from the tank will be sufficient to mature the cotton. The toria, which is sown in October, and ripens in January, is off a tank-irrigated, and in a bad year the land to be sown with wheat gets a preliminary watering from the tank. In the Nardak, where this form of irrigation

Abhi Irrigation.

is most common, there are some large depressions which are filled with water in the rains, round the borders of which rice crops are sown, and watered, if necessary, by lift.

A curious kind of *abi* irrigation is practised on the Ghaggar and its tributaries, whose channels are far below the surface of the surrounding country. Wells, sometimes lined with masonry and sometimes *kachha*, are dug near the river bank, and carried down to a lower level than its bed. In the case of masonry wells, the face of the cylinder is exposed on the river side, and low down in it an arch or *jharkha* is built. A channel from the river leads water into the well through thin reeds, and in the cold weather a small boulder is sometimes thrown across the bed of the stream to hold up the water. Such wells are usually worked by the rope and bucket. This *abi* irrigation was formerly of more importance than it is now. It is at best precarious, and has become more difficult as the channel of the Ghaggar has become deeper.

220. The water passes from the canal by a head (*sunhund*) into the main-distributaries (*ravabha*). From them it is distributed by small channels (*khund, thal*) to the fields. Each main channel supplies many villages; and each village has its turn of so many days. Irrigation from the canal is practised in two ways. If the water is delivered above the level of the fields, the irrigation is called *tar*, or flow; if below them, *dal* or lift. In flow irrigation all that is needed is to cut a hole (*sukar*) in the channel and let the water on to the field. The area that can be irrigated in this manner in five days is only limited by the supply of water; one good opening will water 30 to 50 acres. Irrigation by lift is practised thus. The water is brought up by a low-level channel, which is met by a high-level channel into which the water has to be lifted. The end of the lower channel is enlarged and a small pool (*chah*) dug out, on either side of this standing places (*panta*) are dug in the banks. The end of the higher channel is also enlarged into a basin (*pugaini*) which is cushioned with grass to prevent the full-on water from overflowing. Two men called *dhalis* stand, one in each *panta*, and swing between them the *dal* or scoop. This is in the shape of a small rafter, and is made of thin planks of black wood *binda* together with leather, coconuts, and lasts a year. It is swung by four strings, two at each end on either side of the point. The dhalis take a *teling* in each hand and swing the scoop, dip it into the water, swing it out full of water up and over the *pugaini*, and tip the water out by tightening the upper strings. The operation is performed with wonderful skill; but the labour is very severe, and a man can only work for an hour continuously at it, and cannot work two days running. The outside height of the *khund* or bank over which the water is to be lifted is 4 feet; if the total lift is greater two lifts are used, one above the

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Agricultural implements and applica-
tions.
Oxen.

other. It takes four *dakhs* and one *pahara* to work a *dal*, and they will plough 3 to 5 acres in five days, according to the height of the list.

221. Table No. XXII shows the number of cattle, carts, and ploughs in each taluk of the district as returned in 1888-90. The number of ploughs in Kairali is probably under the truth, for about 12,500 were counted at the recent Settlement.

Agricultural work is entirely done by oxen. Male buffaloes are occasionally yoked in carts, but very rarely indeed in anything else. In the light soil of the Khadis with water near the surface, small cattle costing Rs. 20 to 25 each will do all that is needed. But for the stiffer soil of the Bangar plough carts now cost Rs. 25 to Rs. 40 each; while oxen that can do a full day's work on the deep soils of the Nardak cannot be got under Rs. 50 or Rs. 60 each. An ox begins work when rising 4, and works for 10 years. For a bucket well, eight oxen is the full complement; for a Persian wheel, four. A plough is now always reckoned at two bullocks. It used to be reckoned at four; the change is due to the greater sub-division of land owing to increased population, as many of the agricultural accounts are kept by ploughs.

Fodder.

222. Fodder in general is called *nira*. The fodder of the autumn crops consists of the stalks of the great millets and of maize, which are carefully stacked on end in a stack called *chhor*; of rau straw which is merely piled up in a heap (*kangra*); and of the *bhus*, or broken straw left after threshing of the pulses. The spring crops give bhus only, also called *turi* if of wheat or barley. Bhus is stored in a *kup* made of a wisp of straw (*khanda*) wound spirally round and round upon a foundation of cotton stems so as to form a high circular receptacle in which the bhus is packed and preserved and threshed when full. A long low stack fenced in by cotton stems alone is called a *chhan* or *bhusuri*. Near the city the people store their bhus in mud receptacles (*khata*) and plaster it all round the top. The bhus is taken out from a hole at the bottom as wanted. Stems of millet and maize are chopped up into small pieces (*sani* or *kuti*) before being given to the cattle. An ox during ordinary work will eat 20 sars of grain and a sari of grain daily; if working at the sugar-mill or mill-hotel, nearly twice that. The cost of stall feeding may be taken at about 2 annas a day. Of course the fodder varies according to the season. The mass of it consists of grain and straw of cereals; a little pulse straw is always added; and green food when obtainable. In the cold weather mangel, rape, and carrots, and at all times the weedlings, are given to the cattle. Besides this some cotton seed or oil-cake, or either *peas*, *soyabean*, or *gram*, is daily given. The best fodder of all is the straw of the small pulses, and is called *wisra*; after that that of wheat and barley, called *turi*; after that the poorer stems of

Suri. *Bajra* stems are seldom given alone. They are chopped Chapter IV, A
peeled up and mixed with coarsely cut young fodder, or bullock
fodder, with some jolaka (jhol) or paan-mati of grain. In
factories the cattle will eat almost anything. The sacred pipal
are stripped and even the thorny hina is cut up and given to
the starving beasts. Where sugar-cane is grown it is cut
green to keep the bullocks alive.

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Notes.

223. The dung heap (*lureh*) is started when the rains are over. A great hole is dug in the ground, and straw, cattle,
hogging, sweepings of houses, and cattle-sheds, and all sorts of
refuse, are thrown into it. During the rains the cow-dung is
too wet to be packed up into fuel cakes, and is all thrown in to
the heap. The rain is allowed to fall freely upon it, and it is
periodically turned over and worked up by the sweepers. As
soon as the rains are over, it is fit for use. It is taken to the
field in carts, sprinkled by the sweepers, and ploughed in.
Manure proper (*thor* or *kant burri*) is not very often used as a
top-dressing. But the market gardeners largely use the saline
efflorescence (*tekh*) found about the village homesteads as a
top-dressing for young wheat. The similarity of the name has
led to statement that the injurious saline efflorescence or *tekh*
which covers so much of the country is used for manure. This
is not the case in Karnal. *Tekh* consists chiefly of sulphates, and
is injurious; rich in nitrates, which, of course, are the best of
manures. Woods, grass, and plant stems, and roots which
cannot be used as fodder, are generally burnt on the fields and
the ashes ploughed in. The great object of the cultivator is to
get enough manure for his sugar-cane. After that, what is
over is divided between fine rice, cotton, maize, and the best
wheat land; but these crops, excepting rice, are often sown after
sugar-cane, when no fresh manure is given. In the Nanded
manure is little used, as the people say truly that in the non-
irrigated soil with a scanty rainfall it only burns up the
plants.

The above refers especially to the part of the district
settled by Mr. Wilson. In the irrigated parts of Suri and
Kaithal, except in the canal irrigated villages in the south of
latter taluk, the people make the best use of the manure at
their disposal. Mr. Davis wrote in the Indus Agricultural
Report:—

"The fuel and manure is stored close to the homestead, and the
mid-weather visitor, who sees the long round and leading into the
villages lines of heaps of cow-dung and decaying straw, is apt
to carry away an exaggerated impression of the unhealthy conditions
under which the people live, forgetting that all this manure in the
Khalis and Jangar villages is carefully removed, and spread over
the fields before the rains."

224. The sugar press or *kotha* consists of a stump of a ^{The sugar press}
fig tree hollowed out and bound with iron, and firmly fast-

Chapter IV, A. in the ground. The hollow is lined with pieces of hard wood (corn) which are renewed when worn out, and are so shaped as to form a large upper cavity for the reception of the pieces of cane, and below that a small socket in which the ball of the crusher works. The crusher (*bat*) is a long beam of *bikar* with a knot at the lower end which works in this socket; and above that a conical shaped enlargement (*khatri*) which crushes the cane against the sides of the *kathra* as it moves round in the cavity. The beam to which the axes are fastened (*pat*) has a curved bearing (*guli*) at one end which travels round a groove outside and at the bottom of the *kothra*; it is heavily weighted at the other end. To it is fastened a connecting rod (*manek, thukha*) which projects upwards and is tied at the top to a flat piece of wood (*manek*) with a socket in its highest end. Into this socket the top of the crusher fits. As the cane is crushed the juice runs down past the ball and socket joint and passes out by a small hole at the bottom of the press. The oil press has the same name and is identical in construction with the sugar press. The native *kothra* is now being superseded by the Bohra sugar mill with iron rollers.

The plough and minor agricultural implements.

223. A description of the plough used in Kurnal and of the minor agricultural implements is given in pars. 413 and 414 of Mr. Ilbetsen's Settlement Report.

Agricultural operations.

224. A full account of agricultural operations from the ploughing of the land to the measuring out of the grain will be found in pars. 424—436 of Mr. Ilbetsen's Settlement Report.

Irrigating capacity of wells and average area worked by ploughs in different parts of taluk Pannipat and pargana Kurnal.

225. Writing in his Settlement Report of Pannipat and pargana Kurnal Mr. Ilbetsen remarked:—

"In the canal tract 60 ploughs with ten good bullocks and 20 men will cultivate 60 acres of land, which will be distributed somewhat as follows: Cane 5 or 6 acres; cotton 5; rice and jowar, 20 between them, the low swampy land bearing rice; wheat, 20. The small pulses will be sown among the jowar; while grain or mixed grains will follow the rice, and *muthi* will be sown among the cotton in the same year. On the canal's plough will cultivate much larger areas than in the Khadir, because the oxen are not wanted for irrigation; but the number of men must correspond with the area, and not with the number of ploughs."

"In the Khadir a Persian wheel will have 10 to 16 acres attached to it and can irrigate about 12 acres in a bad year. In good seasons the area watered is far less. There will be two ploughs on it, with 4 oxen, and 4 or 5 men where the women work, and 6 or 7 where they do not; and those same ploughs will perhaps cultivate some 4 acres of unirrigated land in addition. On the such wheels the 80 acres of land will be distributed somewhat as follows:—Cotton, 8 acres; sugar-cane, 6; maize, 6; jowar, 20; grams, 4; muthi, 4; wheat 20; gram, 4. Methi will be sown among the cotton, and the maize will be

followed by barley or wheat in the same year. Among bad cultivators the area per plough will be greater; but it will probably include a good deal of unirrigated land, and the total yield per plough will be smaller.

In the Nardak, where the Rajput runs his plough over the ground, sows in the seed, and trusts to God for the produce, the area which can be cultivated by a plough is capable of extraordinary extension in a favourable season. Five ploughs with their 10 oxen and 12 men (for horse dressing is not practised, and few men are required) will cultivate about 100 acres, almost all unirrigated, as follows:—Coarse rice, 30 acres; jowar, 25; cotton, 3; sesame, 7; maize, 5; grain and barley, 10; gram, 20; and a little raps. But if the early rains are heavy, coarse rice will be sown in every available acre of land fit for it, up to 50 to 70 acres; for the preparation of the ground requires little labour, and the seed time has wide limits. And a great part of that will be followed by grain in the spring. So, again, if the late rains are heavy and last long, the Rajput goes out rejoicing and ploughs the whole country up for grain. On the other hand, if the rains fail, hardly a sod will be turned or a seed sown in the high Nardak."

228. The statistics relating to ploughs in *panchayat* Indri collected at the recent Settlement indicated a deficiency of agricultural stock, specially in the two upland circles. The number of cultivated acres per plough in the Khudir was 11, in the Baugar 17, and in the Nardak 23. It must be remembered that the enumeration was carried out after the drought of 1883-84, during which 3,782 bullocks died, which is equivalent to a loss of 1,891 ploughs. As the total number of ploughs by the Settlement returns was 9,423, it may be said that the drought cost the pargam at least one-sixth of its ploughs entire. Valuing the Khudir bullocks at Rs. 20, and the Baugar and Nardak oxen at Rs. 45 each, we may estimate the loss at about Rs. 1,25,000. Another reason why the acreage per plough appears large, is that the amount of land which bears two crops yearly is very small. Moreover, the unirrigated cultivation in the Nardak, and in some parts of the Baugar, is of the roughest description, and in the Nardak, the rice lands, which constitute one-third of the total cultivated area, are, as a rule, not ploughed at all, but merely trodden out by cattle. The cultivated area in that circle, as recorded in our returns, is also much above the average area put under crop. The Settlement figures for Kaithal give one yoke of oxen to 11 acres of cultivation in the Powadhi, 15 in the Andharwar, 16½ in the Pohowar and 18 in the Kaithal Naali, 19 in the Nardak and Pohowar Baugar, and 22 in the Kaithal Baugar. Though there are fewer ploughs in proportion to cultivation in the Kaithal Baugar than in the Nardak, the tillage is much better in the former. The Rajput scamps his field work partly because he is not by nature very industrious, but largely because he has so much work to do which should properly fall to the lot of his women-folk.

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Irrigating capacity of wells and storage-area covered by ploughs in different parts of total Panjab and旁邊省
Kashmir.

Area worked by ploughs in different parts of total Kal-
thi, and 旁邊省
Indri.

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220. The real irrigating capacity of wells in Indri Circle may be judged from the following table:—

Circle.	No. of wells	No. of well-wheels or buckets.	AREA IRRIGATED PER WHEEL OR BUCKET.									
			Area entered in Settlement Record.	Khatri 1880.	Khatri 1881.	Total.	Khatri 1880.	Khatri 1881.	Total.	Khatri 1880.	Khatri 1881.	Total.
Khadir ..	938	4,710	84	7	5	12	3	2	10	3	1	4
Bangar ..	589	706	17	10	5	15	11	7	12	7	6	9
Nardak ..	254	212	14	84	24	104	4	...	9	4	...	4

The figures entered in the Settlement record represent the whole area commanded by the wells and watered from them from time to time.

In the first three harvests the wells were strained to the utmost, and in the fourth and fifth, owing to abnormal rainfall, there was very little irrigation. The average for the three years is, in the Khadir 9 acres per well-wheel, in the Bangar 12 acres, and in the Nardak 8 acres. There is usually very little irrigation in the Nardak in the Autumn harvest.

In Kaithal wells are little worked except in the Pownah, Andarwar, Naili, and Bangar Pahowa Circles. The average area irrigated in a series of years is shown below:—

Circle.	No. of wells	Area entered in Settlement Record.	AREA IRRIGATED PER WELL.						Average
			Khatri-Khalil 1883-84.	Khatri-Khalil 1884-85.	Khatri-Khalil 1885-86.	Khatri-Khalil 1886-87.	Average		
Pownah ..	512	11	11	9	8½	9½	9	11	10
Andarwar ..	344	14	13	7	9	11	10	11	10
Naili Kaithal ..	458	13	11	9	8	9	8	9	8
Naili Pahowa ..	239	8	10	4	4½	4½	4	5	4½
Bangar Pahowa ..	263	94	10	7	8	8	8	9	8½

The comparatively small area attached to each well in the Powadh is due in part to the character of the water bearing stratum, and in part to the small size of the bullocks employed. There is little Kharif irrigation in ordinary years, except in the Powadh, where maize, cane, and cotton are largely grown. The Nali wells may be looked on in the light of an insurance against drought and failure of floods. In a fair year a well in the Nali can cover as large an area as a Powadh well. The cultivators of the Andarwar and Pehowa Bangar keep powerful oxen, but the great depth of the water level in the latter circle reduces the irrigating capacity of the wells.

230. On this subject Mr. Ibbetson writes:—

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Irrigating capacity
of wells is taken
Karnal and
surrounding localities.

Cost of Cultivation

" It is impossible to estimate the cost of cultivating any particular staple by itself; or at least, the estimate, when made, is meaningless. Take tobacco, for instance. The necessary labour of both man and oxen world, at market rates, amounts to a good deal more than the crop is worth. But the man and oxen are both there; and their labour is for the most part given at a less when it could not be used profitably in any other way, the tobacco session being the slack time of the year. The only estimate that is worth making is that of the whole cost of cultivating the land under one plough, taking two oxen costing Rs. 30 each, outlaying one rupee a day, and working 10 years; three men with their families at Rs. 3 a month each. (I take three so as to include the labour of the village menials) half the interest on Rs. 200, the cost of a well; and allowing for wear and tear of implements, we have for yearly expenses—

	Rs.
Keep of bullocks	... ... 46
Deterioration	... ... 7
Keep of cultivators	... ... 108
Interest on cost of well at 20 per cent	... 20
Wear and tear of gear	... ... 3
	<hr/> 185

or Rs. 185 for, say, 10 acres, or Rs. 18.5 per acre. But the actual expenses will be less; the cattle will be home-bred; the fodder, food and clothes will be home produced; and much of the cost of the well will have been extra labour not paid for, and which bears no interest.

" In the canal tract there will be four men in place of three, and instead of interest on the cost of a well, there will be about Rs. 2 an acre all rental for canal water raised. This will bring the cost of cultivating 12 acres to Rs. 225, or Rs. 18.75 an acre: practically the same as in the Khadiv. But such estimates are, I believe, very unprofitable, and give us little information about the real cost of production as it comes out of the cultivator's pocket. There are some further remarks on the subject at section 112 of my printed Assessment Report on Jahan Panipat."

231. Table No. XX shows the areas under the principal agricultural staples for the years 1873-74 to 1888-89. The figures for the earlier years are quite untrustworthy, but they are

Proportion of crops
grown in each bar-
ren, and (2) the
irrigated

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Properties of copper green in each bar- rel, and proportion of each.

Calibrating a millimeter compass

retained as the Gazetteers of other districts give statistics from 1870-74, 1881-82. Reliance can be placed on the figures for the past three years, and these have been analyzed by tehsils. Taking one year with another there is a slight preponderance of *Rabi* crops in the district as a whole. The irrigated area fluctuates widely with the character of the seasons. In Panipat about two-thirds of the crops are watered on the average, in Kurukshetra probably not above one-eighth, while in Kaithal the proportion is at the end of it far less.

282. The table given below shows various particulars concerning the cultivation of each of the chief staples. The figures refer to crops properly cultivated; but of course there is always a good deal of land in which the cultivation falls far short of the standard. Most labour is naturally bestowed on the irrigated and manured land, the other getting the leavings of the cultivator's time. The cultivation of vegetables, drugs, spices, pepper, and the like is confined to the market gardens round the town, and to a corner of a field here and there which satisfies the private needs of the villagers. The cultivation of opium has been forbidden in the Dohli territory since 1825; and the prohibition was extended without much consideration to the Indri pargana and Kaithal tahsil, when they were added to Karnal on the abolition of the Thanesar district, with the result of seriously crippling the resources of some estates in the north of Indri, which depended largely on the poppy. The existing arrangements have become more anomalous since the greater part of Pehowa was transferred to Karnal, for the growing of opium is now allowed in one corner of the Kaithal tahsil, while it is forbidden in the rest of the district. A proposal to allow the cultivation of opium in Indri has for the moment been negatived.

Geograph. Name.	Geograph. Name oder Synonym.	Botanischer Name, mit Referenzen.	Blätter auf Hölzern	Blätter auf Holz	Blätter auf Holz	Blätter auf Holz	Blätter auf Holz
Alpin.	Alpin.	<i>Thlaspi alpinum</i> L. A. C. 62; N. 400; B. P. 1042.	10 to 12	800	100-200	100-200	100-200
Boreo.	Boreo.	<i>Conyza borealis</i> (L.) G. Don; B. P. 1042.	2	100	10-20	10-20	10-20
Medit.	Medit.	<i>Thlaspi mediterraneum</i> L. A. C. 62; N. 400; B. P. 1042.	10 to 12	800	100-200	100-200	100-200
Alpin. (var.)	Alpin. (var.)	<i>Thlaspi alpinum</i> L. A. C. 62; N. 400; B. P. 1042.	2	100	10-20	10-20	10-20
Alpin. (var.)	Alpin. (var.)	<i>Conyza alpina</i> (L.) G. Don; B. P. 1042.	10 to 12	800	100-200	100-200	100-200
Alpin. (var.)	Alpin. (var.)	<i>Conyza alpina</i> (L.) G. Don; B. P. 1042.	10 to 12	800	100-200	100-200	100-200
Alpin. (var.)	Alpin. (var.)	<i>Thlaspi alpinum</i> L. A. C. 62; N. 400; B. P. 1042.	2	100	10-20	10-20	10-20
Alpin. (var.)	Alpin. (var.)	<i>Thlaspi alpinum</i> L. A. C. 62; N. 400; B. P. 1042.	2	100	10-20	10-20	10-20
Alpin. (var.)	Alpin. (var.)	<i>Thlaspi alpinum</i> L. A. C. 62; N. 400; B. P. 1042.	2	100	10-20	10-20	10-20

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Cultivation of
principal crops.

Native name.	English name or description.	Botanical names and references.	1	2	3	4	5	6	7	8
			Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Zira	A small pulse.	<i>Phaseolus acutifolius</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	2
Zira	—	<i>Phaseolus radiatus</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	2
Zira	—	<i>Phaseolus radiatus</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	2
Zira	—	<i>Phaseolus radiatus</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	2
Zira	A pulse.	<i>Trichosanthes pentaphylla</i> : B.P. 64.	2	—	—	—	—	—	—	2
Zira	Bengal	<i>Phaseolus vulgaris</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	2
Zira	A fibre.	<i>Whistaria undulata</i> : A.C. 24; B. 22; M.P. 24.	—	—	—	—	—	—	—	—
Zira	—	<i>Ormosia pentaphylla</i> : A.C. 24; B. 22; M.P. 24.	1	—	—	—	—	—	—	2
Zira	Chest	<i>Tellima undulata</i> : A.C. 24; B. 22; M.P. 24.	10 to 12	—	—	—	—	—	—	10
Zira	Barley	<i>Hordeum heterocarpoides</i> : A.C. 24; B. 22; M.P. 24.	2 to 4	2	2	—	—	—	—	3
Zira	Groo or chira	<i>Osteospermum</i> : A.C. 24; B. 22; M.P. 24.	3 to 4	—	—	—	—	—	—	12 to 13
Mater or Mat-	Lentil	<i>Uromysces luteola</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	13
Zira	Rape	<i>Cicer arietinum</i> : A.C. 24; B. 22; M.P. 24.	2	—	—	—	—	—	—	13
Zira	Pendakhi	<i>Trigonella foenum-graecum</i> : A.C. 24; B. 22; M.P. 24.	2	2	4 to 6	—	—	—	—	13 to 14
Zira	Tobacco	<i>Nicotiana tabacum</i> : A.C. 24; B. 22; M.P. 24.	4 to 5	—	—	—	—	—	—	—
Zira	Safflower	<i>Carthamus tinctorius</i> : A.C. 24; B. 22; M.P. 24.	—	—	—	—	—	—	—	—

NOTE.—A.C. is Wright's *Systematics of Flora*. B. is *Swartz's Indian Plants*. M.P. is *Burm's Flora of Bengal Province*.

283. Many of the evils to which plants are subject are peculiar to particular staples, and are noticed in their places below. But a few are very common. Much information on the subject has been collected by Mr. Baden-Powell.

Pala or frost is very injurious if severe and not accompanied by rain, or if a west wind blows at the time. There is a saying: *gira mil pachha pala, yih kisan ka gala*: "a tardy rain and frost are the husbandman's loss." It especially attacks cotton, sugarcane, gram, raps, and early wheat while in the ear.

Kag, kegen, or smut is produced by east winds with cloudy damp weather. It attacks wheat especially; and also jowar and sometimes barley. But it is, as a rule, sporadic in the two latter.

At or ala is a black oily appearance upon the leaves of cotton and sugarcane. But it is also the name of a gregarious caterpillar, which especially attacks cotton, raps, and soya.

Kunji or rust is produced by the same influences which produce smut. It attacks wheat chiefly, and is exceedingly destructive.

Diseases and
enemies of plants

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Diseases and enemies of plants.

Insecurity of the cultivation.

Jackets do most harm to maize, of which they "do not leave even the houses" and to sugarcane. They also eat methi and sunflower.

Pige are catholic in their taste; but if they have a preference, it is for rice, jowar, maize, and cane.

White ants eat most jungle, especially gram, cotton, and cane. They cannot move in *dakar* as it is too stiff and moist for them; and plenty of water will keep them away.

Ujala or general withering up from any reason, and *sokha*, or withering up from want of water, are of course evils common to all plants.

234. The two features of the agriculture of the district, which require to be constantly kept in view, if the revenue administration is to be successful, are—

- (a) the wonderful shrinkage of the sowings, and
- (b) the extent to which the crops down fail,

in a bad year. A person unacquainted with the district or with similar traits in the Dehli Division might be tempted to doubt the accuracy of some of the statements made on this subject, but they are fully borne out by the evidence of careful harvest inspections made during and since the recent settlement of Indri and Kaithal. These features of the cultivation are naturally less marked than elsewhere in the Khadir of the Jumna and in the Panipat tehsil, a large part of which is protected by the Western Jumna Canal. The harvests in the Jumna valley succeed best in years of moderate rainfall, and in the autumn the danger is rather from overflooding than from drought. The maize crop suffers severely from floods. The percentages of the area sown and harvested on the recorded cultivated area in the three assessment circles of *pargana* Indri in 1883-84 and 1884-85 are shown below. The first was a year of extreme drought, in the second the rainfall was extraordinarily heavy:—

Harvests	Districts	Khanda		Bansal		Nihang		TOTAL PARGANA.	
		1883 1884	1884 1885	1883 1884	1884-85	1883 1884	1884 1885	1883 1884	1884 1885
Kharif ...	Harvested	36	49	26	51	16	48	58	49
	Failed	2	3	18	2	18	12	12	5
	Total sown	38	52	44	53	34	60	70	54
Rabi ...	Harvested	42	61	25	52	11	41	50	34
	Failed	20	3	18	1	9	1	17	1
	Total sown	62	64	43	53	20	42	57	35
Both harvests	Harvested	76	109	51	103	27	80	86	100
	Failed	23	3	36	4	27	13	29	5
Total sown		100	114	87	107	54	100	97	100

In the Baigar, the area sown in 1883-84 was 17 per cent. below the cultivated area, and notwithstanding the large amount of well irrigation, two-fifths of the crops failed. In the Nardak, little more than half of the cultivated area was sown, and half of the land sown yielded nothing. (See also para. 238). In 1884-85 the people put every acre they could under tillage. The two great autumn staples of the Narlak are rice and jowar. The sowings of the former fluctuate to an extraordinary degree, and the crop is liable to suffer severely, both from drought and overflooding. In the autumn harvest of 1883, above half the small area sown yielded nothing, and in the Huri of 1884, heavy rains at the close of the season destroyed about one-fifth of this crop in the Nardak.

A similar table, the figures in which speak for themselves, is given for the five assessment circles of the old Kaithal tehsil. In only one of these, the Powadh, can the crops be considered even tolerably secure:—

District.	Tehsil.	KADIRI.				BAIGAR.				ABHEDH.			
		1883-84	1884-85	1883-84	1884-85	1883-84	1884-85	1883-84	1884-85	1883-84	1884-85	1883-84	1884-85
Kaithal	Crops	13	20	17	17	13	10	12	41	12	15	10	22
	Failed	21	4	1	17	20	1	1	10	22	1	11	13
	Total sown	34	20	22	33	33	13	14	50	33	14	17	35
Bald	Crops	11	17	17	6	4	12	13	4	20	18	13	16
	Failed	11	1	1	1	1	1	1	11	17	1	1	2
	Total sown	22	18	18	11	13	12	13	17	38	17	16	18
Bach Kallan	Crops	26	10	13	12	21	14	13	12	11	12	10	12
	Failed	23	1	1	20	45	2	2	27	27	4	18	27
	Total sown	49	11	14	32	44	16	15	32	48	10	18	18

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militarization.

Harvest.	District.	TOURAB.				RANA			
		1883-84	1884-85	1885-86	1886-87	1883-84	1884-85	1885-86	1886-87
		Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Kharif	Crops	41	43	49	41	8	23	38	38
	Fallow	8	7	2	7	12	8	39	34
	Total sown	49	50	51	49	21	29	77	71
Rabi	Crops	46	52	55	59	25	43	42	41
	Fallow	17	3	2	16	3	3	12	11
	Total sown	63	55	57	75	28	46	54	51
Both Harvests ..	Crops	41	48	50	54	22	29	30	31
	Fallow	18	3	4	17	31	33	17	16
	Total sown	59	51	54	71	53	62	47	47

In the Pehowa Nulli and Bangar recently added to the Kaithal tahsil the percentage which the area of crops harvested bore to the total cultivated area, taking the average of the three years 1883-84 to 1885-86, was 66½ and 72½ per cent.

235. The following account of the system of cultivation followed in Indri is taken almost verbatim from the assessments report.

236. In the Khadie Rabi crops predominate. In the Bangar, the area under tillage in both harvests is about the same; for the great extent of irrigated cultivation in the rabi makes up for the smaller area under dry crops. In the thirsty Nardak soil, the Kharif harvest is the most important.

237. If we exclude fine rice, the cultivation of which depends mainly on abundant rains, the total area under the better class of autumn crops varies little from year to year. Maize is largely raised on land which can be irrigated if necessary, and though a considerable fallowing also occurs in a bad year, this is balanced by greatly increased sowings of toria. This crop is much cultivated when the autumn harvest has failed, in order that the people may have wherewithal to pay the Government demand, and the wheat land is sometimes sacrificed for its sake. It is put in in October, and reaped in the month of January. Coarse rice is not an important staple, except in the Nardak, and urd is only grown to any large extent in the Bangar, though some urd is always sown along with unirrigated maize. The proportion of superior autumn crops grown in each circle is shown below:—

Review of cultivation in pargana
Indri.Proportion of
kharif and rabi
crops.Proportion of first
class crops.

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Agriculture and
Arboriculture,
Proportion of first
class crops.

Year.	Khadir.	Bangar.	Nardak.
1882-83 ...	19	12	4
1884-85 ...	22	15	7

The percentage is highest in the Khadir, owing to the larger amount of cane, maize, and *ziri* raised in that circle; but the cultivation of these crops will be greatly diminished by the clearing of the old canal below Indri.

The proportion of wheat in the different circles is as follows:—

Year.	Khadir	Bangar.	Nardak.
1882-83 ...	22½	15½	4
1884-85 ...	30	20½	6

In the Bangar, wheat can only be grown at all as a dry crop in the north of the circle, and in the Khadir lands of Khadir-Bangar villages.

232. Purely *kharif* cultivation is chiefly found in the case of *katur dales*. By far the greater part of the rice land is of this description. In a year in which the rainfall is reasonable and abundant, a crop of coarse *sonthi* rice can be raised, but the soil is too poor and stiff to yield a spring crop.

There is also some very sandy soil in the Khadir, and some high land off which rain water drains rapidly in all the agricultural circles, in which only inferior autumn crops, such as *churi*, *bojra*, and *moth* can be grown. Such high land is locally known as "thali." It is less usual to find land which is only cultivated in the *rabi* harvest. This system is chiefly followed in the case of land which lies so low, as to be usually under water in the rains, and there is little of this description, except in the Khadir.

Three-fourths of the barren land is of the kind known as "magri" (see para 4). The people have learned that, where the surface is at all level, the most profitable method of farming is to put in a spring crop in the end of one agricultural year, and an autumn crop in the beginning of the next, after which the soil is given a year's rest. There are obvious advantages in adopting this system. After the *kharif* harvest, the land is

Cultivation of barren
lands in Indri.

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well
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exhausted by the fact that it has borne two crops in succession, and it is also, as the result of the rains, overgrown with grass and weeds. Besides, the pulses, *churi*, and *jowar* raised on unirrigated land are not reaped until the season for sowing grain is past. An industrious man ploughs the land as soon as rain falls in January, eradicating the weeds and exposing the soil to the air. If the spring crop to be raised is grain, the land will not be ploughed again till July, and possibly not till September. The grain is sown in land which has recovered its strength, and is tolerably free from weeds. The growth of weeds and grass in the cold weather is insignificant, and the *churi* which succeeds the grain is also grown in comparatively clean soil. The same system exactly is followed in the Bangar and Nardak on all outlying or "jungal" wells; but the crops grown are of course different. The main feature of the dry cultivation is its extreme precariousness in the uplands included in the Bangar and Nardak circles. The rainfall decreases one proceeds westward from the river, and the stiff soil of the Nardak, which needs most, gets least. But the worst features of the meteorology of this district, are its unequal distribution from year to year, and its frequent unseasonableness. The average is about the same as in the Nawashahr *tahsil* of Jalandhar, but, while the yearly total there has, in the last 20 years, only once been less than 20 inches, in Karnal it has fallen below that figure four times. When we realize that in *sahi* 1886, the Bangar and Nardak had 11,743 and 11,017 acres of dry crops respectively, as compared with 2,029 and 1,211 acre in *sahi* 1884, and that even in the Khindli the area in the latter year was double that in the other, we can appreciate the terrible uncertainty of the harvests. It is only a small part of the difference which is due to the non-irrigation in 1884 of crops raised on well lands.

**Double-cropping in
Index.**

239. In the Bangar and Nardak, double-cropping is practically confined to the irrigated and manured lands close to the village. In addition there is a good deal of superior rice land known as *nala*, in which, under favourable circumstances, *malai* rice is followed by grain. Occasionally a small irrigated plot in the homestead lands may bear, in a twelve month, successive crops of maize, barley, and tobacco. In that case the barley will very probably be cut green for fodder.

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lands in Index.**

240. In the Bangar and Nardak circles, the wells are called as "gora" or homestead-wells, and "jungal" or outlying wells. The former are those situated in the lands immediately surrounding the village. One reason for the fertility of such land is well known. But besides, in these two circles, all the manure is expended on the homestead fields. The cultivation is, therefore, to a large extent, *de-fossi*. Where the people are very industrious, and manure is plentiful, one finds double-cropping all over the area watered from the gora wells. If the supply of manure is limited, the *de-fossi* area is less. As a rule, the inner belt of

the *gara*-lands is usually *do-fasli*, while the outer belt is mainly *ek-fasli*. Where the Bangar cultivator intends to take a double crop, he ordinarily puts in maize in June, manuring the fields heavily. This manure is intended to benefit both the autumn and spring crops. Indeed, its effect on the latter is probably greater than on the former. As much as 600 or 700 maunds of cow-dung per acre is sometimes put in, but usually half this quantity is considered sufficient. Maize in the Bangar is generally followed by barley or carrots; or, where the tillage is somewhat earlier, by a mixed crop of gram and *cauliflower*, or gram, *cauliflower*, and turnip. In the best Bangar villages, and almost universally in the Nardak, wheat follows maize. In the outer *gara* fields, wheat is often cultivated as the sole crop of the year, or wheat is followed by cotton, and the land allowed a year's fallow after the cotton has been picked. In all but the very best Bangar estates, the *gara* lands are mainly devoted to raising the food of the cultivator. It is different in the Nardak, where there are fewer outlying wells on which to grow the revenue paying crops, and where the character of the soil favours the cultivation of wheat. The Nardak *gara* *chukhi* cultivation, except in the villages in the north-east of the circle, is inferior to that in the Bangar. In the south, maize is sown as an unirrigated crop on the homestead well lands, and in these circumstances manure would be harmful, and is not used. Nor is the irrigated wheat which follows the maize manured.

The outlying or *jangal* wells are cultivated on the *ek-fasli* system. The lands attached to them are not manured. The object of the *zamindar* is to raise as much wheat as possible upon these wells; but experience has taught him that, even though the land is not cropped in the autumn harvest, it is impossible to put in wheat more than twice in succession without exhausting the soil. Provided the land is treated properly, the produce of the unmanured wheat on the outlying wells is supposed to be superior to that of manured wheat grown in the homestead fields. In order to restore the quality of the land, unirrigated gram is substituted for wheat in the second or third year, or the wheat is followed immediately by cotton, *urd*, or *chouri*, and the land is left for a year, after which wheat is again sown.

It is the cultivator's object not to be compelled to work these wells in the autumn harvest. If he is lucky, even the cotton will ripen without artificial irrigation. The area attached to the well is often far larger than can be watered in any one year, and a considerable part of it will be found in any particular harvest under dry crops.

The very small amount of *do-fasli* land on the homestead wells in the north of the Khadie is very striking. Manured wheat is put in yearly, or wheat is followed by cotton, and the land given a rest for a year. Occasionally wheat is followed

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by maize, and the latter by barley, or grain and barley, or cotton and cane, or maize and cane, are grown within two agricultural years. The land is too poor to bear double crops regularly without more manure than is available. A good deal of cane is raised on the outlying wells and the cropping on them is not markedly inferior to that in vogue on the homestead lands.

Maize is carried much further from the village site in the Khadir than in the Bangar, but if the well lands are too distant to get any manure, chari takes the place of cotton or maize after wheat. In the south of the circle the system of tillage followed in the homestead walls is more like that which prevails in the Bangar.

A good idea of the cropping of the well lands in each circle in a dry year, when the walls have to be worked to their fullest capacity, can be obtained by considering the average area per wheat or bucket put under each crop in khurj 1883 and rabi 1894.

Crop.	Hectare.	Acre per well land.	DISTRIBUTION OF CROPS IN ACRES.								DISTRIBUTION OF CROPS IN ACRES.					Wheat		Barley		Potato		Cotton		Rice		
			Cotton		Cane		Wheat		Maize		Cotton & maize		Rice		Area per well land.		Wheat		Barley		Potato		Cotton		Rice	
			White	Black	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black		
Khurj	1	1	2	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12		
Bangar	1	1	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12		
Nardak	1	1	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12		

In the Nardak, as noted above, the wells are not used at all for the autumn harvest in a year of good rainfall, but the homestead fields are cropped with unirrigated maize and cotton.

**Soil cultivation
in India.**

241. The Jammu soil is on the whole inferior to ordinary berari Khairi soil. It is only valuable in dry years. In a wet season, the autumn crops are drowned, and the land lies so long under water that it cannot be properly prepared for the spring crops, which are choked with noxious weeds.

Robi crops of course predominate. There is a good deal of double cropping, maize being followed by mixed crops of barley and moori, etc., &c.

**Retention of the
soil.**

242. There is no reason to suppose that the soil is being exhausted. The description given of the system of tillage in pars. 238—240 shows that the powers of the land are not unduly strained, and the number of enforced fallows due to failure of rain in the Bangar Nardak is an effective safeguard.

against over-cropping. Complaints are sometimes made of the increase of *rak* in the Khadir, but it is doubtful whether they are well founded. Some of the hard *kolar* land in that circle has undoubtedly been abandoned since last settlement, but its cultivation can never have been worth much.

243. The dry lands of the Nardak, Kaithal and Pehowa Bangar, Audarwar, and Kaithal and Pehowa Nalli cover 50 per cent. of the barani area and 68 per cent. of the whole cultivation of the tahsil. The dry crops are the same in all four circles, *jowar* with *urd*, *bajra* with *mung*, and *gram* with *airaa*. The *bajra* is usually the small variety called *buji* which yields several small spikes on one stalk and has a very small grain. *Moth* and a little *til* are sometimes sown with *bajra*, especially in the lighter lands in the south of the Bangar Circle. Although *buji* stalks furnish but poor fodder, the Jat of the southern Bangar is too hard pressed for food for his cattle to throw them away, and *buji* ricks, after blackened with age, scattered here and there about the fields, are a curious feature in some Bangar estates. Such ricks are kept even for six or seven years; if the occurrence of severe drought does not cause them to disappear sooner. Coarse rice is an important staple in the Nardak and Pehowa Bangar. Cotton accounts for 3 per cent. of the kharif in the Kaithal Bangar, 4 per cent. in the Nardak and Kaithal Nalli, and 5 per cent. in the Audarwar and Pehowa Nalli. In the spring harvest mixtures of *gram* with barley or wheat are sown, but the typical crop is *gram* with a small amount of *sirsaam* sown with it. *Sirsaam* also occurs as a crop by itself, but is usually sown in lines among the *gram*. *Gram*, *sirsaam*, *janchana*, and *gochani* practically absorb the whole area of dry spring crops. In the Powadh moths, *bajra*, *til*, and *gram* are the autumn crop for tillable land, *moth* sown by itself being by far the most common. In the level loam lands, *jowar* or *chari* with *urd* or *mung* are grown. Cotton is almost unknown as a dry crop in the Powadh. *Gochani* is the great spring staple in the Powadh, but there is a good deal of *gram* and *janchana*, and, in good years, of wheat.

244. Well lands near the village site are known in the old Kaithal tahsil as *nai chahi*. In the Powadh such lands are largely double-cropped, *maize* or *jowar* being followed by wheat, *gochani*, or carrots. The maize is carefully manured. When cotton is sown in *nai* land it is often succeeded by carrots. On the outer walls of *fezilis* (houses) wheat is the great crop. Cane, cotton, red pepper, and *jowar* are raised on both classes of walls, but cane grows best on the outlying lands. If sown in *nai chahi* land the juice is watery. There is some double-cropping even on the outer walls. On the whole the irrigated area fluctuates little from year to year. *Jowar* is the only important *chari* staple usually grown in well land which can often be raised without watering. In the Audarwar the kharif *nai chahi* crops are *jowar*, *bajra*, and sometimes cotton. There is no cane

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or maize in this circle. If a zamindar grew cane, he would have to sacrifice his wheat, for with such a scanty rainfall, the bullocks could not work the cane mill, and keep the wheat alive at the same time. Maize is not grown because of the difficulty of protecting it from wild animals, and because the straw is of little value as fodder. *Bajra* is usually followed by wheat, *jowar* by wheat, carrots, or tobacco, and cotton by carrots or tobacco. But there is less double-cropping in the Andarwar than in the Powadh ; and in some even of the good villages there is little or none. The outer wells are cultivated on the *ek-fasli* system described in para. 240. The *kharif* crops are rarely watered. In six years an outlying well field would probably yield three unirrigated autumn crops (*jowar* or cotton), one unirrigated spring crop (gram), and two irrigated spring crops (wheat). This is one reason why the average watered area in the Andarwar falls so far below the recorded irrigation. The hard red wheat of the Andarwar has a great local reputation. The well cultivation in the Kairali Nalli is of the same type as in the Andarwar ; but there is even less *kharif* irrigation. In illustration of the above remarks it is worth while to give a detailed analysis of Powadh and Andarwar well crops. In the following table the distribution of the average irrigated area of four years 1883-84 to 1886-87 among the various crops is shown :—

CROPS.	Distribution of crops in acres per well.										Average area per well.		
	Corn.	Cotton.	Maize.	Roots & vegetables.	Gram.	Other cereals.	Rice.	Total cereals.	Wheat.	Cotton.			
Powadh.	7	3	17	3	4	..	2	24	12	4	14	22	62
Andarwar.	..	2	..	..	10	7	7	14	8	4	12	22	43

The cultivation of well lands in the Pehowa Bangar and Nalli is very similar to that in the Andarwar Circle, as the following statement showing the distribution of irrigated crops in 1883-84, when the wells were strained to the utmost, will show :—

CROPS.	Area irrigated in acres.	Distribution of crops in acres.					Area cultivated in acres.	Distribution of crops in acres.					Area irrigated in acres.
		Corn.	Cotton.	Maize.	Roots.	Other crops.		Rice.	Wheat.	Barley.	Rice.	Other cereals.	
Bangar.	12	..	02	02	02	02	02	02	02	02	02	02	12
Nalli.	27	..	02	02	02	02	02	02	02	02	02	02	27

240. The canal cultivation in the south of the Bangar and Nardak is poor. Cotton, indigo, and coarse rice are the chief *kharif* staples, but the cultivation of cane is spreading. When

Cultivation of
canal irrigated lands
in Kairali.

is the principal rabi crop, but gram and gochu are also largely grown. Though the supply of manure is abundant, it is only used for cane. Indeed the people have much to learn as to the means of getting the most out of canal irrigated lands.

246. Three-fourths of the rabi crops in the Kaithal, and four-fifths in the Pehowa, Nailli belong to the spring harvest. Gram alone or mixed with wheat accounts for three-fifths and wheat for above one-fifth of the rabi crops. In a really good year the gram is splendid, and wheat in the flooded kutt of the Kaithal Nailli is occasionally as good as well irrigated wheat elsewhere. But a really good season in the Nailli occurs but rarely. The most important autumn crop is coarse rice, of which three varieties, *muthi*, *dhaulin*, and *chokla* are grown.

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Cultivation of millet
lands in Kaithal.

247. Sugarcane.—The principal varieties sown are *Sarta* or *Sotku*, with a long, soft, thick, white cane; the best of all, but somewhat delicate, and especially fancied by jackals. *Lalri* with a hard, thin, red cane; very hardy, and will not spoil even if the cutting be long delayed; but not very productive of juice. *Morathi* with a thick, short, soft cane, and broad leaves; it is very productive, but requires high cultivation, and suffers from excess of rain; it is not much grown. *Pounds*, a thick sweet variety; grown near the cities for eating only, as its juice is inferior. Cane grows best in fairly stiff loam, and worst in sandy soil. It likes abundant rain, and will stand a good deal of swamping, though too much makes the juice thin. It is occasionally grown in flooded land without irrigation; but the yield is poor and precarious. Its cultivation is far more laborious than that of any other staple. The land must be ploughed at least ten times, and worked up to the finest possible condition. The *zamindars* say—*Gehan bisi, ikh lii*, i.e., plough wheat 20, and cane 20 times, but that is a counsel of perfection. The more manure given the better the yield; and it is never sown without. If the soil is unperegnated with red, the juice becomes watery, and yields but little sugar. Cane is occasionally grown a second year from the old roots and is then called *munda*. The yield is inferior. A full account of the cultivation of cane and the manufacture of gur is given in pars. 444-447 of Mr. Ibbetson's Settlement Report.

Young sugarcane is attacked, when about a foot high, by a worm called *kannu*, especially if the east wind blows. A snout called *ai* also attacks it under the same circumstances. Mice do much harm; and also wild rats and fowl. The *balle* or native sugar mill is now being superseded by the *Belou* mill with iron rollers.

248. Cotton—No varieties of cotton are recognised by the people. It grows best in stiff loam; worst in sandy soil. It is better, if possible, to grow it by the aid of rain alone, and without irrigation, after owing at any rate, till the rains are over. The more manure the better; but it often follows sugar, when

Sugarcane.

Cotton.

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Cotton

no fresh manure is given; and in the Nardak it is grown without manure. As it can be grown without manure it is a favourite crop on outlying (*jougal*) wells. On the canal it is sown a full month earlier than elsewhere, as the ample supply of water enables the cultivator to make the land moist enough before sowing to carry it through till the rains. The ground is ploughed twice and the *khaga* used; the seeds are rubbed in cow-dung to prevent their sticking together, and sown broadcast. When the two seedleaves appear it is weeded, and twice again after that: the saying being—

"Naulai takin dopatti!"
"Kya chugaoe kipatti!"

"If you don't weed when there are two leaves, you will pick nothing." When it begins to flower it especially wants water, which must be given if necessary; for if it dries, and especially if the east wind blows at the same time, the flowers fall off and the pods don't form. It generally gets watered again with the other crops which are sown among the plants.

The picking is done gradually as the pods open. It is performed by the women of the house when they are not occupied; otherwise by the poor women of the village who take $\frac{1}{4}$ of the pickings in the earlier pickings when there is plenty of cotton, and more up to $\frac{1}{2}$ as less and less remains to pick. The last gleanings are left for the poor. The cotton as picked is called *kapsa*, and is passed through a small hand-mill (*charkhi*), consisting of a wooden roller revolving in contact with a very small iron roller, the latter nipping the cotton and drawing it through, and so tearing it off the seeds (*shinola*) which are left on the other side. The *kapsa* consists of about a third cotton and two-thirds seeds. The cotton thus gained (*rui*) is scutched (*pinao, dhunkata*) by the *pumba* or *teli* with a large double-strung bow (*pinan, dhunkata*) hung from a flexible bamboo, the strings of which beat violently with a heavy plectrum of wood (*stra*), and the vibrations toss up the filaments and form them into a fleece, leaving the dirt at the bottom. For this he takes the weight of the cotton in grain. The woman spin the cotton and give it to the weaver to weave, paying him one rupee for weaving about 60 yards. After the cotton is picked, the cattle are turned into the field to eat the leaves, and the dried stems (*bawali, bawhatti*) are cut down and used as withies for various purposes, or for fuel. The seeds are a valuable food for cattle, as they are very full of oil. Cotton is especially liable to the *al gant*, and to attacks of caterpillars, and of a red worm in the pod.

Maize

240. *Maize*.—Two sorts of maize are grown; the *pili* or early yellow maize, and *shauli* or late white maize. The former has the better grain, and the latter is the more valuable and ripens fifteen days later. Maize must have plenty of

water and must have at any rate a little fresh manure, even if sown after sugarcane. It grows best in light soils and well in sandy ones. It will not grow in very stiff soil. The ground is carefully dressed and the seed sown broadcast. It is watered on the 10th, 22nd, and 35th day after sowing, or thereafter. It cannot go a month, and should not go more than three weeks, without water; and it is only in good years that it need not be irrigated. If it once dries up, no after-watering will save it. A little early maize is often grown as fodder for the cattle; it produces hardly any grain. The maize is cut down and the cobs (*kukri*) picked off, stripped, dried in the sun, and beaten with sticks to separate the grain. The unripe cobs (*khata*) are often roasted and eaten. The stalks (*karbi*) are good fodder, though not good as jowar. Maize suffers from a worm in the knot of the stalk, and especially from pigs and jackals. In Indri maize is an important crop on well (para, 240) and millah lands (para, 241). In Kaithal its cultivation is mainly confined to well lands in the Powadli, but a little is grown on chaki lands in the Bangur and Naik circles of Pahowa.

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Maize.

250. Rice of all varieties—Rices are divided into two well-defined classes; the fine rices, varieties of *oryza sativa*, the grains of which cook separate, and which are known to the people under the generic name of *siri*; and the coarse rices, varieties of *oryza glaberrima*, the grains of which amalgamate when boiled, and of which the principal sorts are *anupi* and *zonthi*. The *siri* proper is a small rice with a short straw; the principal varieties are *rundali* and *rungymai*, the latter of which has a particularly hard fine grain. *Sankar* and *ansari* are coarser rices, chiefly grown where there is fear of too much water, in which case their long straw gives them an advantage. Rice grows only in stiff soil. It is usually grown in levelling *dakar* so as to take advantage of the drainage water; but if the water-supply is sufficient, the best rice is grown on the stiff soil on a slope where the water is perfectly under control. The seed beds are ploughed four or five times and carefully prepared, manure is spread on them, and the seed sown broad-cast and very thickly on the top of the manure. More manure is then spread over the seeds, and the whole is watered. Four days after they are again watered, and after the fifth or sixth day, they must be kept wet till they are ready to plant out. The rice field is ploughed twice, and much manure given as can be spared. It is then flushed with some three inches of water, and a *chhaya*, toolled if there are weeds, is driven about under water (*gark* or *gajra dera*). If the weeds are obstinate, the plough must be used again under water. When the *chhaya* has worked up the mud into a fine slush, *Thinwars* and *Chamars* take the seedling (*palki*) in handfuls (*guli*) and plant them one by one in the water pressing in the roots with their thumbs. An acre will take 600 to 600 *guli* which will cost, if bought, Rs. 1-4. It will take ten men to plant it in a day, and they get 2½ to 3 currs of grain each daily.

Fine rice.

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Rice rice.

The field is weeded once at least. At first the whole field must be kept under water continuously; for each scudding throws out five to ten new shoots, which cannot make their way unless the ground is pulpy, and it is on the abundance of these shoots that the crop depends. The water must not be worn than 6 inches deep, or the shoots will be drowned before they get to the air, and it must not be changed, as it would carry away all the strength of the manure and the soil. When the ears begin to form, the ground must be kept well weeded, but not too slushy, or the plants will fall. If the crop is wholly under water for more than four days, it dies. The reaping must be done directly the grain is ripe, or it will fall out of the ears into the water. Thus hired labour is a necessity, and the payment is 5 or 6 ari of unhusked rice. If the water is deep and the plants, as cut, have to be put on hedge-roads to keep them out of the water, the reaping is slow; otherwise the same as other small cereals.

The rice is threshed in the ordinary manner; but the grain has to be husked in the oval. Standing rice is called *dhau*, i.e. is the unhusked grain, in contradistinction to husked, *chau*. The husking is generally done by the woman of the house. It done by a labourer, he returns 18 ari of chau rice every 80 ari of *dhau*, keeping about 2 ari of good rice and as much of broken bits which he will grind up and eat as bread. The rice is husk, which is useless. The straw (*puri*) is very poor fodder, and is used largely for bedding for cattle, and for mixing with manure, or is even ploughed in fresh. But it is also given to cattle to eat. Rice suffers much from *khad* or *lalli*, apparently aquatic larva or other animals that eat the young sprouts. Water birds, too, play terrible havoc with it when it is ripening. If the whole plant dries up, it is called *malmi*, if the grain only, *pata*; in what is the matter with it.

Coarse rice.

251. Coarse rice is of three kinds, *chalaka*, *manji* or *dhau*, and *santhi*. *Chalaka* is grown to some extent in the Nadi. It is an intermediate variety between *ari* and ordinary coarse rice, has a white grain with a broad hook of a purplish red colour at the tip, and a longish beard of the same colour. The peculiarity of *dhau* is that it cannot be threshed out, the grain lengthening as the water deepens. It is therefore sown in spots liable to flooding. It will stand two feet deep of water; and if the ripe plant falls into the water, the grains do not fall out as they do with *ari*. It has a larger grain than *santhi*, from which it is also distinguished by the fact that the grain stalk, when the seed is ripe, separates itself from the sheath. The grain of *santhi* has a black hook, and ripens within the sheath. It is sown in March earlier than any of the other kinds, and its peculiarity is that it ripens within an extraordinarily short time (nominally 80 days, hence its name) from the sowing; it is sown all over the Nardak, and generally wherever there is no irrigation, as the rains will usually last long enough to ripen it.

Han Teasir noticed its quick growth with admiration when he visited the Nardale 1,300 years ago. *Sonthi* has a short straw and does with but little water, it being sufficient if the soil is thoroughly moist after the shoots are once up. The young shoots are liable to be eaten, and if the water gets very hot they will sometimes rot; but the plant is wonderfully hardy, and when the stalks have once grown up, hardly anything hurts it. Both *shauli* and *sonthi* are sown at once where they are to grow. After one or two ploughings cutts are sent in to thin water to walk about and stir up the mud, or the *gulam* or toothed *sohago* is used under water. The seed is sown broadcast on the *gulam* or fine mud. No manure is used nor is the crop irrigated. The *parali* or straw is better fodder than that of *ziri*, but still not good. The coarse rice forms a staple food of the people, the fine rice being sold and seldom eaten by them.

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Coarse rice.

252. *Jowar* and *churi*.—There are two varieties of *jowar*; the *pili* or *alapuri*, which gives a sweet large grain, but is delicate, and the *dhol*, which is very hardy. *Jowar* grows best in medium loam, and is not grown at all in very sandy soil. It is seldom either manured or irrigated; but it is grown on well-land in the Andarwar circle of Kaithal and watershed, if necessary. Throughout the Kaithal tahsil it is a very important crop and is usually grown for grain mixed with *urid* (see para. 243). The land is ploughed two or three times, and, if very dry, a *sohago* is passed over it. The seed is sown broadcast,—if grain is wanted, very sparsely (*chhido*), the plants growing large and strong, and yielding fine heads of grain; if fodder is the object, very thickly (*manghus*), the plants growing together with thin stalks, giving little grain, but an immense deal of fine sweet fodder. If sown for grain it is weeded once at least—twice, if possible; and small pulses are often sown with it. When the crop is cut, the heads (*laari*) are picked off and the stalks (*churi*) stacked for fodder. The finest heads are selected for seed and threshed with sticks, and the others threshed in the ordinary way. The seed heads are covered with a down which irritates the legs of the labourers. If the fodder crop in any field is very inferior, from late sowing or scanty rain, it is cut green, and is then called *chil*. *Jowar* suffers from worms in the *geba* or bud; and a worm also eats the stalk, which then turns red and hollow inside, and no grain forms. But the plant is exceedingly hardy, and if there is plenty of rain, hardly anything hurts it. It is said to exhaust the soil more than most other crops. Most of the bread eaten by the people during the cold weather is made of *jowar* flour.

Jowar and *churi*.

253. *Bajra*.—*Bajra* is little grown in Panipat or Karnal, but is, after *jowar* and grain, the most important staple in the Kaithal tahsil, where it is usually sown mixed with *mung* (para. 243). In the Andarwar circle it is often grown on well-land (para. 244). It thrives best in sandy loam with

Bajra

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Bajra.

as is found in the S.-W. of the Kaithal Bangar. It is sown much earlier than *jowar*. The mode of cultivation is just the same as for *jowar*; but it is always sown exceedingly sparsely, and some small pulse is generally sown with it, and grows between the plants. The stalks are called *dandar*, and are poor fodder compared with *choti*. In the Bangar villages of Kaithal, however, the *bajra* stalks are carefully stacked and are sometimes preserved for years, and are given to the cattle clapped up with green fodder, or even with the *straw* of grain (para, 242). If rain falls on the flower (*bar*) it washes the pollen off; but hardly anything else affects it.

Maudus.

254. *Maudus*—No varieties are recognized. It is grown in fairly stiff soil, but chiefly in the Kharial, and there only in small quantities. It is sown in seed beds carefully dressed and manured. The seedlings are then planted out in land which has been twice ploughed, and dressed with the *sukhi*. It is watered once, or twice if the rains are late, and weeded once. The heads ripen slowly, and the ripe heads are picked off and the grain beaten out. The *husk* is very bad fodder, and is generally burnt as it stands, or grazed down. The flour is used for bread, but is very indigestible; but it has the advantage that it may be eaten on fast days, as it is plucked, not reaped like other cultivated cereals. It is the *ragi* of southern India. In dry seasons its cultivation as a food crop is largely increased, it being put in fields intended for *ziri* which cannot be planted out owing to the drought. A poor variety is known as *mawwas*.

The kharif pulses.

255. It is very difficult to state with any accuracy what the area under the *kharif* pulses is, as they are usually sown with *jowar*, *chari*, or *bajra*. In the Kaithal Porewali, however, *moth* is commonly sown alone. It is sown in light or sandy soil. The ground is ploughed twice over, and the seed sown broadcast, and neither weeded, manured, nor irrigated. The *husk* yields the best fodder of all the *kharif* pulses, but it cannot be stored, as it only lasts for one year. *Moth* with the grain unthreshed is a valuable fodder. The seeds of *moth*, *urid*, and *mung*, when hasted and split, are called *dal*, and eaten largely by the people, generally boiled.

Urd grows in stiffer soil than *moth*. The *dal* is of the finest description, but the *husk* is inferior to that of *moth*.

Mung is almost always sown and reaped with *jowar*, un-irrigated maize or *bajra*, chiefly with the latter. The *husk* is not so good as that of *moth* or *urd*, but is still very good indeed. *Moth*, *urid*, and *mung* are very apt to be ruined by over-saturation in the Kharial.

Graze is a pulse cultivated in much the same manner as those above mentioned. It is grown for cattle only, the grain is boiled, and given as a fattening food to bullocks. Or it is coarsely ground and given dry. The *husk* is worthless; but

the green plant is cut and chopped up and given to bullocks. It grows only in light soil, and is sown with the first rains, and always alone.

256. No varieties of *til* are recognized. It must be grown in good stiff soil; and the soil must be new to give a good crop, which is probably the reason why it is chiefly cultivated in the Narduk where virgin soil abounds. It is generally sown with *jowar* or *bajra*. When the plants are cut, they are put up on end to dry. As they dry, the pods open, and the seed is then shaken out. The stigma (*damer*) are of no use. The seed is taken to the oilman, who returns two-fifths of the weight in oil, keeping the oil-cake (*khari*) which he sells. The oil is good for burning, and is the best of all oils for purposes of the kitchen. *Til* is very subject to attacks by caterpillars (47). And if it once dries up it never recovers.

257. *San* is sown, sown by seed, on the edges of the sugar-cane field, or in rows among the cotton; and takes its chance with them. It is cut in Katik. The plants dry for two or three days, and are then, or when wanted, weighed down under water in the pond or in a well. They soak for 40 to 60 days in the cold, or 20 days in the hot weather. The fibre is then stripped off, washed thoroughly, dried, and is ready for use. The sticks are called *mukkars*, and are useless. The fibre is especially used for the *lao* of the well, as it is very strong, and stands water without rotting. It is also used for ropes in general; but does not wear so well as *san*.

San is sown in the best of soils only. The land is ploughed once, the seed is sown broadcast, and no further trouble is taken with it. It is sown in Sarh and cut in Katik. It is dried and then steeped for 8 to 10 days in the cold, or half that time in the hot weather. The stalks are then washed, dried, and put away whole, the fibre being stripped off at wanton. It makes the best ropes of all, but will not stand constant wetting. The sticks are called *mukki*, and are useless.

258. *Wheat*—It forms the chief spring staple of the Jammu Khandir irrigated portions of the tract. The principal varieties are the *pila*, the best of all wheats; *kunja*, with a long straw, and full ear, of somewhat inferior grain; *jogia*, a short wheat of good quality; and *kal* a very hardy and productive wheat of good quality, which does with less water than the others, and is sown in the inferior soils and in the unirrigated portions of the tract. There is also a beardless variety called *mandli*. Wheat and gram are very commonly sown together, especially in a year when failure of rain in September prevents the sowing of gram alone, but rain falls in October.

(47) Mr. Baden-Powell, in his *Forest Products*, writes the reader against cutting *sun* and *san*. He has, however, exchanged their names. *Bassi* is the leguminous *Crotalaria* and *sun* the undaceous *Hibiscus*.

Chapter IV. A.

Agriculture and
Arboriculture.

Wheat.

Wheat will grow in almost any soil, except the very stiffest where barley takes its place; and if there are good Christmas rains (*muharrat*) a fair crop may be got without irrigation. It is not grown alone as an unirrigated crop in the Indri Nardak or anywhere in Kallital except in the Powadh and the flooded parts of the Nali. The soil is worked up in the most careful manner during the rains; and the oftener it is ploughed the better. It is generally sown after cana or maize, when no fresh manure is added; otherwise manure is almost always given, and the *Malis* and *Rais* use a top-dressing of *rishi* of some 12 or 15 maunds to the acre, when the plant is six inches to a foot high. The field is dressed laboriously with the *sohnga*, and the seed sown broadcast. It is watered 20 to 30 days after sowing, according to the original wetness of the soil; and then at intervals of a month, three times more on the canal, four times more in the Khadir. It is weeded after the first watering; and once again, in the Khadir at any rate, where the plants are numerous. It ripens suddenly; and hired labour is generally needed for the harvest, the labourers getting 5 to 7 annas a day in the ear. The *bhat* is very fine fodder. The grain of wheat alone is not much eaten, it going to the *Bamia*, while the people eat the mixed grains mentioned below. Wheat is very liable to smut, often called *dharuchi* in this case, and rust (*tungi*). Sometimes the east wind in dull weather will make the ears curl and twist up; and this is called *margia*. Late frost does it much harm if it has been sown so early that the ear is then forming, but not otherwise. Further information on the cultivation of wheat on well lands has been given in paras. 240 and 244.

Barley.

259. Barley sown alone is not an important crop in Kurnial. It is the hardiest of all the small cereals, will grow in any sort of soil, and will stand either excess or deficiency of water. It may be sown later, too, than any other of the spring crops; and men may be seen sowing barley at the very end of the season on the edges of a swamp which is still too wet to plough, with the intention of ploughing it in as the soil dries. The limit to the sowing is expressed by this proverb, "*Naya Poh, diga kha*," "sow in Poh, and you lose your seed." The field is ploughed over to four times, the *sabga* is passed over it, and the seed sown broadcast. Manure is given if there is any to spare, which there seldom is, and water is given if the needs of the other crops allow of it. It is seldom weeded unless the weeds are very bad. The grain is much used by the people for bread; and the *bhat* is admirable fodder. Barley sometimes suffers slightly from smut, but nothing else seems to touch it, wind, and weather of course excepted.

Gram.

260. Gram—It is the great *barnai* Rabi staple in the Indri Bangar, the Karnal and Indri Nardaks, and throughout Kallital, except in the Powadh. It grows best in Gilak soil. It is generally sown broadcast, and is often mixed

with wheat or barley. In the very stiff rice fields the *habar* is ploughed up once after the rice is cut, so as to break it up into large hard clods, in the crevices between which the grain grows. Lighter land is ploughed two or three times, and is sown more sparingly than stiff soil. No manure is used; and irrigation rots the plants, so that the soil should be very moist for sowing. If this is the case, and the Christmas rains are good, a fine crop is almost certain. Gram is never weeded. The grain is used as *dal*, and for bread; often in the latter case mixed with cereals. The *bhus* is admirable fodder. The young plant is used as a vegetable, the green seed is eaten raw, and at harvest time the plant is thrown on to a fire of grass, and the toasted seeds (*hole*) crushed out and eaten. Either the phosphoric acid which the leaves deposit, or the down with which they are clad, is exceedingly irritating to the skin. The plant is exceedingly sensitive to frost; and a green worm called *simi* attacks the root, especially if the Christmas rains are late so that the ground is damp when the seed is sowning.

261. *Masoor* is a small pulse, growing chiefly in the very light soils of the Khadis. The ground is ploughed twice, and dressed, and the seed sown broadcast, often mixed with barley. No manure is used; but it is irrigated if the labour can be spared. The grain makes very good *dal*; but the yield of fodder is insignificant.

262. It is difficult to say what the area under *siron* is as it is usually sown together with wheat or grain, often in rows (*adj*). It is largely grown in Kaithal, but the area fluctuates to an extraordinary degree with the character of the season. Two kinds are grown in the tract; the black, which is more hardy but less productive, and the yellow. It is grown chiefly for its oil, though the green plant is much used as a vegetable, and as green meat for cattle. If sown separately, it is neither weeded nor manured, and seldom watered. It ripens in Phagan, the earliest of all the rabi crops except *toria*; and the plants are picked out from the crop with which they are growing. The seed is called *bhatar*, and yields an oil which is the finest of all oils for burning, and is also good for cooking purposes, though inferior in this respect to that of *sis*. The oilman retains one-third of the weight of seed in oil if yellow, and one-fourth if black, and keeps the oilcake. The *bhus* is called *turi*, and is worthless. The plant is subject to the attacks of a gregarious red caterpillar (*adj*), and is very sensitive to frost.

Toria is an oil-seed, one of the brassicas, deriving its name from the rapidity with which it ripens (see para. 237). It is sown in Bhadian and ripens in Poh, coming in just when oil is dear, and before the other spring oil seeds have been reaped. Hence the proverb—

*Toria hat jorin, jorin choti bol,
Bhawan toria khagti, galangai kari gel.*

Chapter IV. A.
Agriculture and
Arboriculture.

Orissa.

Masoor or Masor.

Rabi oil-seeds.

Chapter IV. A.
Agriculture and Arboriculture.

"The plough is yoked for the torse, when the ard creepers
are already long. But hasten as you will, I will ripen along
with you."

Methi

203. Methi is a treefoil, used only as green fodder for cattle
or as a pot herb. It is generally sown, sometimes with a little
gram or gram mixed with it, between the cotton plants. Before
the pods open, the ground is grubbed up with a hoe and the
methi sown. It is watered the day after and again at inter-
vals of 20 days or less as it needs a great deal of moisture. It
grows very thick and close, and is cut green. It only yields on
cutting.

Tobacco

204. Tobacco is very generally grown in the villages, but
mostly for private consumption only, except where local peculiarities
are especially favourable.

The plant grows best in a nice loam soil neither too stiff nor
too open. A slight saline impregnation improves the plant,
and the water of bitter wells, or of the dirty village ponds, is
best. Canal water is too pure. The land is ploughed 8 or 10
times, dressed most carefully, and laid out in ridges some 2 inches
high and 8 inches apart, the seedlings being planted half
way up the ridge on either side alternately and about 8 inches
apart; for if water lies about the stem, it injures the plant.
This is done in Magh or Phagan. They are then hand-watered
with manure dissolved in water. Solid manure is generally
used as a top dressing, as less is thus required. The dung of
goats and sheep is the best, and old dry cowdung mixed with
ashes. The field is watered every 10 days or so; and the land
is then freely used so as to keep the earth about the roots open
and the weeds removed. As the leaves grow they are sprinkled
with ash or ashes to keep off insects and improve the flavour;
and the flower-bearing pedicels (*yoh*) are nipped off as fast as
they appear. This plant is ready to cut in Jeth. The whole
plant is cut in the morning, and left in the field for 24 hours to
dry. Next day they are piled up and left to dry further. A
hole is then dug and the plants are packed into it, covered up
with dhaal or ak leaves, and left to ferment for five to ten days.
The leaves (*yat*) are then stripped and either tied up into bunches
(*sut*) or twisted into a thick rope. They are, if necessary,
further fermented; and are finally dried and kept for use.
When tobacco is wanted, the leaves are cut up and powdered
with an equal weight of gur in a mortar.

Safflower.

205. Kari or safflower is usually sown very sparingly with
gram or on the edges of the fields, seldom by itself. Only small
quantities are sown. The soil requires little preparation and no
further care. When the flowers open, the women pick out the
petals; three days later they repeat the operation; and again a
third time after the same interval. If hired they take a quarter
of the picking as their wages. The petals are bruised the same
day in a mortar, rolled between the hands, and pressed slightly
into a cake. Next day they are rolled again, and then spread in

the sun for two days to dry, or still better, one day in the sun and two days in the shade. One set of plants will give a quartier of a set of dry dye. Any delay in the preparation injures the dye. The dry dye is called *Kusum*, and is the yellowish red colour with which the clothes of the village women are ordinarily dyed. The dyer (*sudar*) by the cloth and dye brought to him, retains one-fifth of the dye as a perquisite, and is also paid for his trouble. A little oil is expressed from the seeds, which is used for lighting only. Forty acre of land will give 8½ acre of oil. *Babbar* is a general name for the oil plants (*sesamum, toria, karur, alsi, til, and much of Lantana*).

Chapter IV. A. Agriculture and Arboriculture.

Ballowar.

266. The mixed crops proper are confined to the spring harvest, for the small pulses so abundantly grown during the long millets in the autumn are sown and then harvested separately. In the spring, however, mixed grain and barley (*kankar* or *korri*), wheat and gram (*lachhi* or *korri*), wheat and barley (*gari*), are commonly sown and reaped together, especially the two former. This custom has brought on the Indian cultivator much very undesired hard language. It is true that the mixed grains have no export value; but then he does not grow them for export, or even, as a rule, for sale. In one village the people complained that their labour, to whom they were in debt, would not let them grow mixed grain. The peasant devotes his best soil, his manured and irrigated fields, sown at the proper time, and when neither too wet nor too dry, to the single grain which he will sell to his master. In the remaining land he grows mixed grain, which he eats himself, liking the taste of barley, and especially finding the nitrogenous pulses an excellent substitute for the animal food which religion or poverty forbids to him. Beside this, the three crops which are sown together flourish under different circumstances; and a frost which destroys one will very likely hit the other, and so gives a fair yield in the end. If it is rather late to sow grain alone, he sows grain and wheat; and if the soil appears very wet, he will sow grain and barley. The damp will suit the barley, while it there are no Christmas rains it will cover the grain. The frost which will kill the grain will spare the others; while the dew on the grain leaves will help the wheat, and the wheat and barley will shelter the young grain from the sun.

Mixed crops.

267. Such rules as are observed by the people regarding the rotation of the crops are, of course, founded upon experience only, but it has proved over and over again that the soil in which the spring crops are sown is called *dahar* or *landless*, according as it has or has not been sown up to the autumn immediately preceding; the former name from *dahar* a stalk, as the stalks are generally left in the hurriedly prepared ground; the latter from *Blades*; the month in which they begin to plough the field. In double-cropped land the nature of the crop to follow is almost determined by the date at which the autumn crop is cut, and the interval thus afforded for the preparation

Rotation of crops.

Chapter IV. A**Agriculture and Arboriculture.****Rotation of crops.**

of the soil. Thus maize, which is cut early and usually manured, is often followed by wheat. Cotton is frequently followed by canna, which is also often sown after jowar, manure being added. Cotton is often sown after canna or wheat; but wheat will often follow cotton or canna, with a season's interval. Jowar or churi, which is very exhausting, is seldom followed by any spring crop. Rice, except in kalar daur soils, where nothing but rice is sown, is almost always followed by grain or mixed terrain; the stiff wet soil lying in many cases incapable of producing anything else, while the pulses following the cereal does not seem to suffer, judging from the crops often produced. And in the swampy canal villages, where the whole area is often too wet to grow anything but rice, barley is perfectly sown in every field in the spring, not because there is much hope of a tolerable grain crop in the swampy fields, but because some sort of fodder must be had, and rice straw is of but little use. Manured land is never allowed to rest more than one season at a time, while the highly-manured land close to a town will yield, with the help of vegetables and chura, three or even four crops in a year. Except in rice land and swampy villages, land is seldom double-cropped without manure. Further remarks on this subject will be found in para 238-240, and the following may be taken as embodying the more usual rotation on ordinary dry loam soils and on soils lying outside the manured belt (*gara*) round the village site:

(a).—*Rotation of crops on unirrigated loam soils.*

Circles	Rice land.	Khatri land.	Bald land.	Khatri terr.	Muld land.	Khatri land.	Bald terr.	Khatri terr.
Dhag and Nanak.	Rice.	Churi, or peas and wheat or corn.		Fallow.	Fallow.	Grain.	Churi, or peas and wheat or corn.	Fallow.
Dhadi.	Wheat or wheat and maize, or barley.	Churi, or peas and wheat.				Wheat or wheat and maize, or barley.	Churi, or peas and wheat.	*

(b).—*Rotation of crops on water (*jangal*) soils.*

Khatri land.	Khatri terr.	Bald terr.	Khatri terr.	Bald terr.	Khatri terr.	Bald terr.	Khatri terr.
Wheat dryland.	Fallow.	Grain (try).	Fallow.	Wheat dryland.	Fallow.	Grain dryland.	Fallow.
Wheat dryland.	*	Wheat (dryland).	Churi dryland.	Fallow.	*	Wheat dryland.	*
Wheat dryland.	and maize.	Fallow.	Fallow.	Wheat dryland.	*	Grain (try).	*
Wheat dryland.	Grain dryland or irrigated.	*	*	Wheat dryland.	Churi (try).	Grain.	*

Those tables were originally prepared for Indri, but they apply pretty generally. Of course the orthodox twelve months fallow in the case of unirrigated land is much oftener broken into in the Khanda than elsewhere.

269. The three tables below show the estimates which were used by Mr. Hobson and Mr. Douie to calculate the value of the gross produce of the principal staples for purposes of assessment in the Settlements of 1850 and 1855. The latter contains no estimates for crops, such as cane, cotton, &c., for which rentals are paid. Further information on the subject will be found in the printed Assessment Reports.

Chapter IV. A. Agriculture and Agriculture.

Arrangement and compilation of food-grains.

A COMPARISON OF CROPS IN PAPUA AND EASTERN SARAWAK

B.—Yield is given per acre by individual groups in Kastoria & Pangaia District.

Tract.	Assessment Grade.	Miles.	Vert.	Wheat	Buckw.
TENNE	Humble	240	100	440	600
	Hunger	600	600	510	600
	Narduk	260	480	320	640
KATHAL	Pennell	600	100	160	420
	Audubon	500	**	520	610
	Hunger Polkow	100	**	400	1200
	Kalli Kathal	500	200	410	1100
	Kalli Polkow	500	600	170	600

(b) The estimates for π_1 are too low. — 2 M.U.

CHAPTER IV. B.

AVERAGE PER HECTARE OF PERTINENT CROPS IN KARLAKH & PANJAB DISTRICTS.

LIVE-STOCK.

Average yield, Production and consumption of food grains.

Crop	Estimated area	Production		Consumption		Exports		Imports	
		Per acre	Total	Per acre	Total	Per acre	Total	Per acre	Total
Rice	—	200	—	100	—	100	—	100	—
	Barley	200	200	100	100	100	100	100	100
	Wheat	200	200	100	100	100	100	100	100
Gram	—	—	—	—	—	—	—	—	—
	Pearl	—	—	—	—	—	—	—	—
	Chana	—	—	—	—	—	—	—	—
Maize	—	—	—	—	—	—	—	—	—
	Peanut	—	—	—	—	—	—	—	—
	Linseed	—	—	—	—	—	—	—	—
Other cereals	—	—	—	—	—	—	—	—	—
	Ragi	—	—	—	—	—	—	—	—
	Bajra	—	—	—	—	—	—	—	—
Pulses	—	—	—	—	—	—	—	—	—
	Chana	—	—	—	—	—	—	—	—
	Urad	—	—	—	—	—	—	—	—
Roots	—	—	—	—	—	—	—	—	—
	Carrot	—	—	—	—	—	—	—	—
	Potato	—	—	—	—	—	—	—	—
Fruit	—	—	—	—	—	—	—	—	—
	Mango	—	—	—	—	—	—	—	—
	Guava	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	—	—	—
	Goat	—	—	—	—	—	—	—	—
	Cattle	—	—	—	—	—	—	—	—

The average consumption of food per head has already been noticed in para 94. The total consumption of food grains by the population of the district, as estimated in 1876 for the purposes of the Famine Report, is shown in mounds in the margin.

The figures are based upon an estimated population of 6,10,227 souls. On the other hand, the average consumption per head is

believed to have been over-estimated. A rough estimate of the total production, export, and imports, of food grains was also framed at the same time; and it was stated (page 111, Famine Report) that some nine lakhs of mounds, principally wheat, were annually exported to Delhi and Ambala and about 312,000 mounds of wheat, barley, gram, bajra and small pulses imported from Pusria and Bawali.

SECTION B.—LIVE-STOCK.

262. Table No. XXII shows the live-stock of the district as returned in 1885-86. In a tract like the Nardak, where Rajpias predominate, and only a small portion of the area is under the plough, it will be readily understood that cattle breeding

(2) Value in the Nardak is nearly zero as well tools near the hamlets but not watered (para 210).

forms no unimportant element in the means of subsistence. In the larger Rajput villages, it may, in fact, be said that cultivation holds an entirely subsidiary position. The people look upon the manual labour of agriculture as to some extent derogatory, while the propertied of them thinks it no shame to tend his herds; the yield of their fields is evidently precarious, and only follows on the expenditure of labour and capital, while their cattle yield ghee and butter in the exercise of their natural functions. Thus the Nardak Rajput's chief agricultural care is to secure a plentiful supply of fodder from his forest fields. The general area of the tract is a high flat slope from which the rain water runs off almost as fast as it falls; and what scanty soil is being up, before it once before it disappears under the burning heat of the sun. But every village is situated on a stream bed of greater or less magnitude; and in the hollows, where the earth is protected by the shadow of thick black forest, grass grows with great luxuriance, and is both pastured and cut and stored for use in the hot weather. The beds, however, which are used for cultivation, generally enclose a good deal of uncultivated land, and large herds are often fenced off on grass preserves (bar). In these spots a plentiful crop of grass is to be found in fairly favourable seasons. Notwithstanding this, by the beginning of April the supply begins to run short, the pools in the jhumas have dried up, and the owners of the cattle are taken away to large herds (yal) either to the deserts of the Sirwahis, or, where the existence of friendly relations with the villagers enables it possible, to the riverain and canal villages. As soon as the first rains provide a supply of grass and water, these cattle return, accompanied by the herds of the canal and riverain tract, which the rising floods have driven from their homes, and often by those of the arid tracts of Haryana, where the season has been less favourable. Thus the cattle-farming capacity of intertidal villages depends not so much upon the actual area of pasture land as upon the extent to which that area is occupied by hollows and drainage lines. Many villages are compelled to fall back for pasture upon neighbours who have a smaller but more favourably situated area; and in some villages considerable sums are yearly paid as grazing fees to other communities. In Kairhal Jat villagers have as a rule broken up almost all their good grazing lands and often have to pay their Rajput neighbours for pasture. Besides cattle, a large number of sheep and goats are pastured in the tract, chiefly by the non-proprietory community.

270. *Kins* or *dhau*, consisting of buffaloes and cows, are kept by almost all villagers, and their milk furnishes the only animal food which they, as a rule, enjoy. In the Narki they form the ordinary of the people, while in every village the animals also form a substantial addition to their income. Of the two kinds of kins the buffalo is infinitely the more valuable. If a villager loses his cow, he only grumbles a

Humped cattle

Chapter IV. D**Live-stock.****Horned cattle.**

little harder than wood); if he loses his buffalo, he sits down and cries. A female buffalo (*bhaini*) is worth Rs. 40 to Rs. 100. After four years old she will give a calf every 18 months, to the number of seven or eight or even more. The heifers (*takhi-kutri*) are not sold; but the steers (*jolai, katra*) are geld and sold when two years old to be used as pack-animals. They are called *jota* when grown up. The buffalo eats all the coarse swamp grasses which the cow will not touch, and which would otherwise be useless; and so long as they have water bath in the pond, are hardy animals. The cow (*gai*) is worth from Rs. 10 upwards. After four years old she will calve once in every twelve to eighteen months on the average, generally in Chait or Basakh. She will calve about six times. The steers (*bahri, bakhira*) are geld and kept for the plough as oxen (*buldi*), or sold at three years old for from Rs. 15 to Rs. 20. The heifers (*takri, bakhri*) are seldom sold unless they do up their young. No care is taken about the breeding of oxen, the bulls (*bjur, khaggar*) being simply the young bull calves let go on the occasion of a death. The buffalo bull (*Maanay*) is sometimes chosen by a group of villages and let loose, but it is often let loose in the name of *Dero* or of the *Pir*, and these latter may be of any sort of breeding. Both sorts of bulls roam about the jungal and mingle with the herds at pasture.

Grazing and food.

271. The cattle are grazed in herds (*gol*) by herdsmen (*patti*), usually boys and girls, except in the Rajput tract where men go also for fear of attack at night. In the cold weather they go out as soon as the dew is off the grass, and return at sunset. In the hot weather they graze from dawn till 11 a.m., and from 2 till evening, returning to the village to drink in the middle of the day. In the rains they also graze for three hours before dawn, returning to the village to be milked. The milk is called *paisir*, and has a great effect upon the milk, the cattle grazing more freely when not teased by heat and flies. The plough cattle often go for *paisir* both before dawn and after sunset in the rains.

The principal kinds of grass have been described in Chapter I. If the rains are good a splendid crop springs up.

Milk and butter.

272. A buffalo will give 6 to 10 seers of milk daily for eight months, and each cow will make a chittak of ghi; a cow will yield 3 to 5 seers daily for five or six months, but each cow will only produce half a chittak of ghi. The first milk after calving is offered to *Bannia* and the Snake-god, or sometimes given to the beast herself to drink; otherwise the milk will turn bloody. The calf has all the milk for 10 days; on the 11th it has a top put round its neck, and the owner begins to use the milk. The milk is boiled at night in a vessel called *karkhani*, and a little ghee and (*dishi*) put in to turn it, which is called *jasonee*. Next morning the milk is turned into a *jhanti* or churn, and the churn stand (rept, *rasa*) made of hair wood with four arms at the bottom) is

put in, and a cover (*shikra*) put on through which the calf passes. A string (*meta*) is wound round the stuff, and it is spun alternately such way by pulling the ends of the string. This absorbs (*bilou*) the milk. The butter is skinned off and put into a vessel. Its collective name is *tandi* or *naini*, and the butter-milk is called *lassi*, and is drunk. The butter is then melted, and the water with its impurities (*ghach*) being strained off, ghee remains. This is put into a vessel called *bara* till enough is collected to take to the *ba*, or to they express it, to change the *bara*. The word is probably from *Bar*, Saturday, as no ghee must be made from the Sunday's milk.

273. The following remarks on the number of cattle, and the profits derived from cattle-rearing and the husbandry of pasture lands are extracted from the assessment reports of Indri and Kailhal:—

Chapter IV, B.

Livestock.

Milk and butter.

*Cattle in Indri
and Kailhal.*

"The figures relating to cattle, other than plough oxen, in Indri include male and female buffaloes, bulls and cows, and calves of all sorts. The young male buffaloes are bought up by merchants from the Punjab. No considerate in these parts would work his bull with a buffalo. In the Khadur the number of cattle shown is 20,349, or about one head for every acre of waste. But while the cattle are numerous, they are small and of little value, for the grass in the Khadur is very poor. In the Raigarh also we have one head of cattle to every acre of waste, and the grazing is of better quality than in the Jajua valley. In the Narsik, according to our late, there are only 13,773 head of cattle in 37,342 acres of waste. I suspect this may be an under-statement. But the area recorded as cultivable waste, includes a good deal of land which might well have gone down as barren. The Indri Narsik is not a grazing tract to anything like the same extent as the Karnal Narsik with its Rajput population and huge area of waste. The Rora, who own about half the villages, are good cultivators, and rarely keep up much pasture land. But the Raigarh in the south, and the Jals to the east of the circle, depend a good deal on the profits of grazing, and there are one or two estates owned by strangers which are kept as grass preserves. Successive grass famines, to which the tract is terribly liable, have increased greatly the number of cattle in the Narsik. In the drought of 1893-94, 922 milch buffaloes and 1,752 cows died in this circle alone, and the loss in the whole pargana was 2,828 buffaloes and 3,174 cows. On the most moderate computation, their value cannot have been less than Rs. 2,00,000, and if we put the total losses, including plough cattle, at three and a half lakhs of rupees, I do not think we would be guilty of exaggeration. That is more than twice the land revenue of the pargana. And the people must expect to suffer at least as severely once in every eight or nine years."

"The number of horned cattle in Kailhal, excluding plough bullocks is 1,10,032. These figures include draught oxen, cows, buffaloes, and calves of all sorts. Of the total 11,032 are milch cows, and 32,744 milch buffaloes. The circle details confirm in a

(1) The figure refers to the old Kailhal taluk as it was constituted before 1859.

Chapter IV. B.Livestock.

Cattle in Nurdak
and Kallial.

striking way the truth of the opinion expressed in a former report that the number of cattle depends far more on the number of mouths requiring milk than on the amount of pasture land. There is little grazing left in the Povrath, and none in the Jangal,¹ yet the former circle has 10 head of cattle for every 16 persons, and the latter 10 for every 19. In the two grazing circles the proportion is 10 to 19 and 10 to 17, respectively. The Nurdak pasture is better than the Bangar, and there is twice as much of it; but the Bangar having the larger population has the most cattle. It is usually assumed that the spread of cultivation has been accompanied by a decrease in the number of cattle, and it is true that the cultivators seem likely to be the ones. Let I have the results of the enumeration made at last settlement in the Bangar and Nurdak, and it is worth while to put it beside the present figures:—

CIRCLE.	BULLS.	COWS.	BUFFALOES.
Bangar...	Former	12,369	10,004
	Present	16,452	12,185
Nurdak...	Former	11,313	6,813
	Present	12,012	11,125

¹ I have mentioned that the former figure excluded calves, whose wise the increase since last settlement would be considerable. Of course I do not pretend that either of the two sets of figures is minutely accurate, and probably mine are more correct than those of Larkins. But with these statistics before us we may well be satisfied to believe that cattle have decreased. The crop grown yields a great deal of fodder, and, as I shall show presently, the want of grass has led the people to cultivate jowar more largely. In the circles where cattle are kept for milk and little else, there are many more cows than buffaloes. But in the Nurdak, Bangar, and Kallial, the number of buffaloes does not fall very far short of the number of cows. These buffaloes are kept, and the Bangar Jai is especially good at rearing them.

274. "A milch buffalo is worth Rs. 50 or 60. It gives milk for 8 months in the year, beginning in June or July. Much of the milk is reserved for ghi, especially if the calf is a bull. We may say generally that 7 seers of ghi, worth Rs. 3-8-0, is handed over to the family monthly for 8 months in the year, while the owner keeps the buttermilk for the use of his family. In the four rainy months the buffalo eats only grass and the price obtained for the ghi is pure profit. But in the cold weather Rs. 2 monthly must be deducted for the cost of cotton seed and mil-cake. The owner of a good buffalo, therefore, realises a profit of Rs. 20 yearly by the sale of ghi. The cows and bullocks found in Kallial are not to be compared with those bred in Hissam or the Jangal country. The cows are

(2) This circle has been transferred to Hissam.

worth Rs. 12 or 15 each and yield on the average 2 seers of milk daily for seven months in the year. A male calf is allowed a good deal of milk, but female calves are stinted, and this partly accounts for the poorness of the breed. The profits from the sale of ghi made from cow's milk may be put at Rs. 6 yearly. As a rule the ghi made during the week is handed over to the bawis every Thursday, and on that day no ghi is made, and the owner's family can have fresh instead of sour milk. Male buffalo calves are brought up by Panjabi merchants at the age of 3 or 4 years, and are worth from Rs. 8 to 10 each. Banjars from across the Jumna come every spring to buy the bull calves. They take them from 18 months to 3 years old, and the price varies from Rs. 4 to 12 or even more according to age and quality. The trade in hides and horns, of which Dehlî is the centre, has become important during the past twenty years. In Kaithal it is in the hands of the butchers. The price fluctuates a good deal, falling very low in a famine year, but it may be put at Rs. 6 or 7 for a buffalo hide, Rs. 2 or 3 for a cow hide, 8 to 12 annas for a goat skin, and 3 or 4 annas for a sheep's skin. The Chamar still get the skins of all animals dying natural deaths, but of course the increased value of hides has raised the price of the live-stock. Cow's horns are not sold. Buffalo's horns are worth about an anna a pair. In the Baugur and Nardak villages there are numerous flocks of sheep and goats belonging mostly to the butchers of Kaithal, Pandri, Pampat, Jindh, and Sisdeon. Landowners of all castes, who are too poor to keep cows and buffaloes of their own, tend them. The herdsman is allowed the whole of the milk, and the increase of the flock is divided once a year. The butcher usually buys the carriarâ's share and many of the sheep find their way into the Ambala Condemnt.

The following table, for the details of which I am largely indebted to the Rev. Mr. Gaistran, who has been much in Kaithal during the last 30 years, is interesting:—

DETAIL.	PRICE IN 1855.	PRICE NOW.
Milk per seers.	10 seers.	10 seers
Ghi	5 "	2 "
Milk buffaloes	Rs. 15 to 20.	Rs. 32 to 70.
" cows	Rs. 8 to 10.	Rs. 12 to 20.
Bullarks broken to plough	Rs. 15 to 20.	Rs. 30 to 40.
Young male goats for food	Annas 4 to 5	Rs. 10 to Rs. 1-1.
Sheep for food	12 annas	Rs. 2.
Buffalo hides	1 Rs.	Rs. 6.
Cow-hides	5 annas.	Rs. 2.
Goat-skins	2 annas.	10 seers

275. "Pasturage is sold in two ways. Either fixed charges per head of cattle are made or definite areas are let for lump sums. In the former case the usual rates are:—

	AREAS.
Buffalo buffaloes	Rs. 1
Cows	1 "
Wanted cattle	2 "

In the Nardak it is still quite common to collect part of the revenue by a tax on cattle; and when this is done the rate per head, excluding plough bullocks and unweaned calves, is from two to four annas. The community also realizes an anna per head and

Chapter IV. B

Live-stock.

Profit of a life
rearing

Chapter IV. B.

Live-stock.

Profits derived from
keeping pastures.

sometimes more for all sheep and goats grazed in village lands. The Superintendent has collected statistics for five Bhagat and eight Nardak villages where he has ascertained with an approach to accuracy the lump rents realized for pasture over areas exceeding 100 acres. The result is to show a grazing rent of about six annas an acre to be usual. We may observe that pasturage let in this way is above the average. I am inclined to take the rental value of ordinary grazing land in the Nardak of Kallial as about four annas an acre and, as a good deal of bad land has been placed at kishas, perhaps we should put it lower for assessment purposes.

Diseases of cattle.

276. The chief diseases to which cattle are subject are as follows:—

Gobar or gurari.—This is the most fatal of all, especially to buffaloes. The mouth and nose run, the tongue and throat swell, the papillæ of the tongue stand erect, and animal dies in a few hours, apparently suffocated. *Bora or muri.*—The feet and mouth swell, and festor, and colic and diarrhoea are present. The animal generally recovers. *Mund* is dysentery, which generally kills the patient. *Jac.*—In the rains when the grass is young the cattle get giddy and fall down, especially buffaloes. It is seldom fatal. The root of the canal tree gives the cattle glandular affection and diarrhoea, and pulls them down; they are therefore sent after a year or two to the highlands to recruit, which they do in a few months. *Bora* is used also for any epidemic cattle plague. If an animal got bura, an oval mark with a cross in it, or Solomon's seal, or Shiva's trident, or the old Aryan mark of the wood-fire, in general shape like the Manx arm, is branded on the limb affected. A morsel or piece of the coloured thread used in religious ceremonies is a powerful charm if tied round the leg of the animal. All cattle that die on Saturday or Sunday are buried instead of being given to the Chamar.

Sheep and goats.

277. Considerable stocks (circular) of sheep and goats are kept in the Nardak and in such Khatri villages as have large pastures. Where the villagers are Mussulmans, the flocks sometimes belong to them; but they are more commonly the property of the city butchers, who send them out to graze in the villages. The sheep are all of the ordinary black small-tailed breed. They are generally tended by Gaddars who make blankets of the wool. A blanket is presented yearly to the village as a proprietary fee and is appropriated by the landholders. The dung is used for manuring tobacco, but is not much valued and never bought.

Other animals.

278. Pigs (*hauj*) are kept in large quantities by the sweepers in the villages, and the Khatriks in the town. The Kurial breed of pigs, which is a very fine one, date from the time of the old customments; and large drivers of "very superrive and extremely hump-backed pigs" may be seen constantly going from Kurial, where they have already attained a considerable size.

and acquired the local tastes of their race. Donkeys are kept solely by porters, and do all the petty village carriage. There are many of them in every village. The sweepers of almost every village keep fowls in some quantities.

279. The Kurnool remount rearing depot was established in January 1889. The number of young stock at present in the depot is 653, but in addition to the horses there are also 120 ordnance mules which are being trained for mountain battery work. Such of the young stock as are likely to prove good for breeding are put aside for that purpose. About one-third of the Kurnool farm lands recently purchased by Government is devoted to the rearing depot, the remaining two-thirds are present under the charge of the Commissariat Department and used as a grass farm.

280. On the abolition of the Government Horse Stud in 1876, some of the buildings and lands were made over to General Parrott, the Superintendent. Some of the mares were sold to him, current stallions were placed under his charge, and he set up an exceedingly promising experiment in horse-breeding. In fact matters had passed beyond the stage of experiment, when he recently sold his stud to Government, and at present it is being worked in connection with the depot, very much on the lines which General Parrott pursued with so much success.

SECTION C.—OCCUPATIONS, INDUSTRIES AND COMMERCE.

281. Table No. XXIII shows the principal occupations followed by males of over 15 years of age as returned at the Census of 1881. But the figures are perhaps the least satisfactory of all the Census statistics, for reason explained in the Census Report; and they must be taken subject to limitations which are given in some detail in Part II, Chapter VIII of the same Report. The figures in Table No. XXIII relate only to the population of 15 years of age and over. The figures in the margin

Chapter IV, C.
Occupations,
Industries and
Commerce.

Other animals.
The Kurnool
remount rearing
depot and cattle farm.

The Kurnool stud.

*Occupations of the
people.*

Population.	Towns.	Villages.
Agricultural.	18,411	61,429
Non-agricultural.	6,412	23,113
Total.	24,823	84,542

show the distribution of the whole population into agricultural and non-agricultural, calculated on the assumption that the number of women and children dependent upon each male of over 15 years of age is the same, whatever his occupation. These figures, however, include no agricultural only such part of the population as are agriculturists pure and simple, and exclude not only the considerable number who combine agriculture with other occupations, but also the much larger number who depend in great measure for their livelihood upon the yield of agricul-

(2) These figures refer to the district as extended in 1881.

Chapter IV. C.**Occupations,
Industries and
Commerce.****Occupations of the
people.****Principal industries
and manufactures.**

tural operations. More detailed figures for the occupations of both males and females will be found at pages 69 to 78 of Table No. XIIA, and in Table No. XIIIB of the Census Report of 1881.

A full account of agricultural occupations has been given in Chapter III, Section E.

282. Table No. XXIV gives statistics of the manufacture of the district as they stood in 1881-82. The annual return of large industries for the Karnal district for the last five years has been blank. The only manufactures presented in the villages are weaving in cotton and wool, rope-making, making pottery and bricks, and minor handicrafts, such as the making of bangles and tuis. They are all conducted either by the people themselves or by the menials; the latter either providing the finished articles as part of their *begar*, or being paid for their work, almost always in grain. The products are always of the roughest description, and for better finish the people have to go to the towns. Spinning and weaving are described fully by Mr. Baden-Powell, and an account of rope-making, pottery, and brick-making is given in parts, 497-501 of Mr. Ibbetson's Settlement Report.

Town manufacturers.

283. In the city of Karnal several handicrafts are carried to great perfection, being relics of the days of the old cantonments. Especially it is famous for its shoe-making, many thousands of boots being sent from it to regiments all over the country. The city of Panipat is famous for the manufacture of copper and brass vessels and of skin jars (*tups*) for holding ghi and oil, and exports them in considerable numbers. There is also a glass foundry, (1) the operations at which are fully described by Mr. Baden-Powell at page 237 of his *Punjab Manufactures*.

Mr. Lockwood Kipling, Principal of the Lahore School of Art, has kindly furnished the following note on some of the special industries of the district:—

"Panipat in this district has long been noted for small wares in metal of various kinds. A peculiar kind of bead-like ornament, known as *mota* or pearls, skilfully made in thin silver is one of the specialities of the place. A necklace of six rows costs about Rs. 20, of three rows about Rs. 10. There is no chasing or ornament of any kind, but the silver is a good colour and the beads are perfectly round. Captain Roberts reported in 1882 that this small industry is declining. Betel-nut cutters (*surtas*) are here made in fanciful forms, the handles being of brass with quaint projections, in which small mirrors and pieces of coloured glass are fixed. A good one costs two or three rupees. Soltanas are similarly ornamented; the handles being made of brass with bits of coloured glass tediously simulating

(1) Glasses, or *waz*, also made at Gomtiha in Pohora, and a small village adjoining Gomtiha is called Khari Shikargah.

jewels set therein. A pair of scissars costs about 6 annas. These articles are made for export.

"The fabrics produced in the district are of no special interest. The Internal Trade Report for 1881-82 says that blankets of the ordinary native description are largely exported to other districts; and that the Kaithal chanchi, a cotton-cloth with its borders, red or blue, is exported towards Patiala and the Panjab.

"Karnal itself has long had a name for glass blowing. The silvered globes of thin glass, which, when broken up, are used for mirror-work in walls and also sewn into phulkaris, are invariably said to come from Karnal. In the descriptive catalogue of the Panjab contributions to the Calcutta Exhibition 1883-84 Mr. Baden-Powell writes:—'In Karnal small globes are made for ornaments, the inside being silvered with quicksilver and tin-foil; the large aperture necessary for the manipulation is awkwardly covered with oxidine. The Karnal glass-makers also prepare the large, thin, pear-shaped glass retorts or carboys, in which the native manufacture of salammoniac (*santhadie*) is effected. It would be interesting to know whether this slender manufacture is a survival of more important works carried on in either Hindu or Mughal times. There has never apparently been any lack of small phials for after of roses and similar articles blown at one operation; but few examples of more substantial forms survive.'"

224. There are no statistics available for the general trade of the district. The exports and imports of food-grains have already been noticed in para. 229. There is no material available such as would render it possible to give anything like a complete view of the trade of the district. But a slight sketch of its general course will be interesting; and, as a foundation for it, an abstract of the customs returns for the trade passing east and west through the Panjab district in 1882-83 may be attempted. At that time that trade north and south went chiefly via Hissar, and not through Karnal, excepting salt, which passed up from Jhajjar through Karnal to the Panjab in great quantities:—

Chapter IV. C.

Occupations,
Industries and
Commerce.

Town Manufactures.

Commodities
of trade.

Trade passing into the Doab.

Goods.	Quantity.	Customs duty in rupees.
Cotton seeds	64,610	8,704
Cotton	39,520	10,260
Salt	65,107	90,057
Sal ammoniac	2,283	1,097
Iron	4,766	2,400
Timber	—	5,200
Wool	641	41
Miscellaneous	—	3,004
		1,32,281

Chapter IV, C.

Occupations,
Industries and
Commerce.COTTON AND MUSLIN
TRADE.*Trade coming from the Doab.*

Goods.	Ramds.	Estimated value in rupees.
		Rs.
Sugar ...	2,73,917	87,992
Gur	2,12,630	24,334
Cloth	167,390 per	3,153
Leather ...	...	1,592
Bajreya	2,218	2,820
Miscellaneous	-	3,500
		1,24,721

Ghi is not mentioned, and probably did not pay duty.

The course of trade thus indicated has been entirely changed by the construction of the railway and Grand Trunk Road, the mass of the external traffic now passing down these two arteries, the former being used for long distances, while the latter is still preferred for short ones. The only really important traffic east and west is that which flows to the great sugar mart of Shamli in the Mussoarnagar district, the carts generally taking salt there from Bhiwani, or bari, moth, oilseeds, and ghi from the highlands, and bringing away gur. The Kaliudir and canal portions of the tract produce a surplus of wheat, cotton, gram, and fine rice for export, and import salt, bajra, oil, and oilseeds, iron, and piece-goods. The Nandak exports ghi, hides, wool, and in a good year large quantities of grain; and imports the same things as the rest of the district, with the addition of sugar. Formerly large quantities of grain, moth, &c., from the Jangal country of Rupnagar, Patiala, and Ferozepore passed through Kairthal. The Zamindars of the Jangal do are their own carriers, and brought the grain in camels to Kairthal, Shamli, and Sakarmapur, taking back gur and fine rice. The Ferozepore grain trade was diverted by the Sindh, Punjab, and Delhi (now N. W. State) Railway, and the trade of the rest of the Jangal do is now being drawn to the Ferozepore-Rowari Railway. When there is a surplus of grain in Kairthal, a good deal of it finds its way to Delhi through Panipat. Jowar, sirmu, til, and mang are also exported. The jowar is largely bought for seed by the camel villages on both sides of the Jamuna. There is little export of bajra, which is the favourite food of the Kairthal peasant. There is a large export of ghi to Delhi and Amritsar, but the trade is said to be less important than formerly, partly because the local consumption has become much greater. The trade in cattle, hides, and horns has been noticed in para. 274. The Powad villages deal with Patiala and Sambhar.

The trade of the district will be greatly affected by the opening of the Delhi-Kalka Railway and the excavation of the Sirsa canal. The local trade is principally conducted through the village *benis* who deal with the larger traders at the little marts of Kairthal, Kachal, and Panipat, the last of which towns lies on the direct road to Shamli. But it is surprising how

very considerable a trade is locally conducted by the villagers themselves, and especially by Jais from Nihalkot. These people in the hot weather, when the bullocks would otherwise be idle, start with their carts, bring salt from Bhiwani or Jajroh and *muth* from Hansi and Bissar, exchange it for *gar* or cotton in the villages, take this up into the highlands and exchange it for grain, and finally sell the grain at Karnal or Panipat, either buying sugar to take back, or carrying piece-goods, &c., for hire. The Delhi traders often send up agents for cotton or *ghi* in the villages, and bring it direct to Delhi. This local traffic is of immense advantage to the people, as they deal direct with the carriers instead of with the local *bawis*, and always get a better price than he would give. When the people of the tract themselves engage in similar operations, of course the profit is still greater. But this is not often the case, as in irrigated tracts the bullocks are seldom at leisure.

Such *gar* as is not absorbed in this manner goes to Shamli, the cotton and wheat to Delhi and Ambala, and the *ghi* and hides to Delhi. Oil and oil-seeds come from the Panjahi and the Deohi; *til* and *saram* from the furnaces, *ather* and *tara* mint from the latter. Timber comes from Ambala, iron and piece-goods from Delhi, such from Bhiwani, Delhi, or Ambala. The petty articles needed by the people and not produced in the villages are supplied by small hawkers, who buy them in the cities and travel about the villages, exchanging them for grain. Gangs of travelling blacksmiths,¹ too, are not uncommon, who do finer work than the village blacksmith can attain to.

SECTION D.—PRICES, WEIGHTS AND MEASURES, AND COMMUNICATIONS.

225. The village prices of the chief agricultural staples used for the conversion of produce estimates into money at Mr. Hibbertson's Settlement of 1890 are shown below. They are based upon the average prices of the 20 years ending with 1874, prices of certain staples being excluded in the calculations of the Nardak averages for those years in which these staples

Chapter IV. D. Prices, Weights and Measures, and Communi- cations.

Cause and nature of
trade.

(1) In the cold weather these nomad *bafas* wander about in the districts of the Doab division. They live in enormous huts—carts. They encamp outside the villages, as they are bound by the custom of the tribe *panch* to enter a house. They state that they are descendants of the *Bahir* *Rajputs* who left Chitor after its capture by Akbar (A.D. 1567). These *bafas* are divided into eleven *got* (clans), some of which at least bear high sounding Rajput names (*Udaiwal*, *Shah*, &c.).

They do not practice *lalasa*. Possibly the prohibition against entering houses is connected with their claims to be descended from the *Rajputs* of Chitor. Udaipur was founded by Rana Udai Singh when he fled from Chitor. "So long as Chitor was a walled city, the Rana bound himself and his successors never to twist their heads or feet from gold or silver, or sleep upon anything but straw. To this day the memory of the interdict is preserved in the palace at Udaipur. The *baja* never twists his head. His nose from gold and silver, let there be leaves beneath the dishes. He sleeps upon a bed, but there is a covering of straw below." (Tallory's Wheeler's *Sketches of India* p. 102.) J.B.D.

Prices, wages, rent-
rates, interest.

Chapter IV. D.
**Prices, Weights
and Measures,
and Communi-
cations.**

Prices, wages, rent-
rates, interest.

were not produced because of drought. A column has been added to show the prices assumed by Mr. Douie for Indri and Kaithal at the Settlement of 1883. He did not make any estimate for rabi crops, such as cane and cotton. Table No. XXVI gives the retail *labor* prices of commodities for the last twenty-nine years. The wages of labour are shown in Table No. XXVII, but the figures are probably of doubtful value:—

Staple.	Sardak.	Karnal Khadar.	Karnal Banger.	Panipat Khadar.	Panipat Banger.	Indri & Kaithal
Cotton	13	12	12	11	12	—
Ghee	—	16	18	18	16	—
Maiwa	42	38	37	35	—	33
Fine rice	41	35	34	35	34	30
Coarse rice	17	15	14	—	—	22
Jowar	42	35	36	35	35	30
Bajra	35	29	29	29	29	31
Moth	29	42	34	34	34	24
Wheat	32	31	30	29	29	27
Gram	40	38	39	38	37	35
Barley	—	42	44	—	42	39
Wheat and gram	43	37	37	34	32	32
Barley and gram	50	42	43	—	40	30
Maize	—	40	44	—	—	32

The figures of Table No. XXXII give the average values of land in rupees per acre shown in the margin, for sale and mortgage; but the quality of land varies enormously and the value returned is so often fictitious, that but little reliance

Period.	Sale	Mortgage.
1860-61 to 1873-74	14-15	18-12
1874-75 to 1887-88	22-2	25-1
1878-79 to 1888-89	34-3	38-2

can be placed upon the figures. The subject has been noticed as regards Indri and Kaithal in para. 192.

286. Mr. Ibbetson thus discusses the history of prices in Karnal:—

"The prices of agricultural produce which ruled in the villages between 1830 and 1874 have been obtained from the *basisi* books in the manner already described, and are summarized in the following table, which shows average prices in taka per rupee in the Panipat tahsil:—

Chapter IV, B
Prices, Weights,
and Measures,
and Communi-
cations.

Period.	Colton.	Guz.	Mohur.	Rupee.	Jowar.	Wheat.	Gram.	Barley.
1829 to 1834	—	16	21	67	72	58	45	46
1835 to 1845	—	19	15	45	42	42	43	43
1846 to 1848	—	18	20	42	52	58	31	42
1849 to 1850	—	18	20	42	52	58	32	44
1850 to 1851	—	21	21	42	57	55	41	50
1851 to 1852	—	16	21	42	44	50	40	42
1852 to 1853	—	10	16	31	42	32	34	30
1853 to 1854	—	9	17	37	27	24	27	31
1854 to 1855	—	11	14	31	21	22	31	37

Rolling Prices in Karnal Nardak in anna per rupee.

YEAR.	Colton.	Mohur.	Guz.	Gram.	Jowar.	Rajah.	Mohur.	Wheat.	Gram.	Barley.
1855	12	69	51	45	60	45	59	58	70	65
1856	18	48	53	58	52	50	58	58	70	70
1857	16	44	53	58	52	40	71	48	70	60
1858	—	—	—	—	—	—	—	—	—	—
1859	—	—	—	—	—	—	—	—	—	—
1860	20	56	57	40	50	58	58	58	48	63
1861	11	41	46	56	43	58	58	40	42	60
1862	6	50	49	49	38	45	54	28	—	—
1863	—	—	—	—	—	—	—	—	—	—
1864	11	40	39	49	30	30	26	36	40	37
1865	11	40	39	49	30	30	26	36	40	37
1866	—	—	—	—	—	—	—	—	—	—
1867	14	34	34	39	37	31	28	35	35	32
1868	—	—	—	—	—	—	—	—	—	—
1869	—	—	—	—	—	—	—	—	—	—
1870	10	39	39	42	42	30	29	29	—	37
1871	10	39	39	40	32	31	31	24	31	36
1872	10	39	39	40	32	31	31	24	31	36
1873	11	39	39	40	32	27	30	24	35	32
1874	11	39	39	40	32	29	32	20	35	32
Average	13	43	41	48	42	36	38	32	40	33

Note.—The years for which the price of any staple is not shown are the years in which that staple was not produced in the Nardak, owing to drought.

"Special circumstances have combined to render the rise in prices, which has been in general all over India, somewhat less marked in this district than elsewhere. The large frontier custom-house which was kept up for so many years at Karnal created a local demand which its transfer to Ambala did not much diminish, and the populous city of Delhi is so near that the opening of the Grand Trunk Road, always a good one, which was done about 1853, did not affect prices so much as new communications would do in an isolated tract. The same thing may be said of the great mar-

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of Sialkot, to which the present road existed before last Settlement, though doubtless it is better now than then. Another cause which tended to keep prices up was the immediate proximity of the arid tracts of Harijan and the Bagar, the normal state of which appears to be scanty rain relieved by frequent droughts; the influence of this cause is often noted in the early correspondence, but the extended use of canal water in these tracts has lately tended to equalise the local supply with the demand.

The prices tell their own tale. The first five-yearly period is marked by the famine of 1823; the second by the drought of 1837-48. In the third, during which the Settlement was made, the rainfall was somewhat scanty throughout; but the prices may probably be taken as the normal rates of the time, as they tally with those of the preceding period, and for the next five years remain almost unaltered, although the seasons were favourable. The supplies needed by the army operating in the Punjab between 1845 and 1847 were largely drawn from this neighbourhood. The fifth period, from 1850 to 1859, is marked by a sudden and unusual fall in all prices, which continued to 1858; and this must, I fancy, have been owing to the opening out of the Punjab, and to its surplus stocks pouring into a market from which no railway existed to carry them away. The famine of 1859-60 only introduced the cotton famine, which began in 1861 and continued for five years, during which time it is estimated that £63,000,000 sterling of silver was poured into Bombay. This enormous addition to the circulation of the country drove up prices with a rush, and, before equilibrium had been restored, the introduction of steam carriages from Delhi threw open the markets of the world to India, and perpetuated the high level which had been reached.

The famine of 1863 created a temporary disturbance, but for the last five years the seasons have been fair, the opening of the Punjab railway in 1870 has completed the connection between Lahore and Bombay, and prices have stood with an extraordinary steadiness at what may be considered their normal rates. Since then the drought of 1877-80 has again raised prices considerably, but the rise is probably only temporary. Taking the periods from 1840 to 1845 and from 1870 to 1875 as giving normal rates for last Settlement and for the present time, which I think we may fairly do, we find the rise in prices to be as follows:—

	Wheat	Rice	Bajra	Sorghum	Maize	Gram	Chana	Barley
Settlement rates	100	100	100	100	100	100	100	100
Present rates	126	126	121	120	100	100	122	121

And the general result may be said to be that prices have risen by about one quarter.

In discussing the same subject in connection with the Settlement of Indri and Kaithal, Mr. Donia wrote as follows:—

"The history of prices and the causes of their fluctuations have been so often described that I need not say much on the subject. The main features are the same in Karnal as elsewhere, though the changes have been less violent. We have a period of comparatively high prices coming to have an end about 1830, a considerable fall between 1831 and 1860, a great rise coincident with the famine of 1860-61, and only permanent by the rapid expansion of the trade of the province. Since 1860-61 prices have been fairly level, except in years of actual famine such as 1868 and 1878. Since the famine of 1877-78 they have ruled exceptionally high. No anticipations of a permanent increase can be based on this fact, which is due solely to the occurrence of a series of bad seasons. One or two good harvests have at once brought prices down, and those ruling lately were actually lower than the average prices prevailing in the five years 1860-64, when food grains were still very cheap."

"But, while the prominent features of the history of prices have been the same here as in the rest of the Panjab, there are very marked differences to be noted. Between 1840 and 1860 prices were decidedly higher in Karnal than in the Panjab proper, as a comparison of my statistics with those collected by Mr. Parer and Captain Montgomery for the Jalandhar and Rohtakpur districts will show. * * * * Moreover, the fall in prices after 1860 was much less marked in Karnal than in districts lying further to the northwest. The average Karnal prices are still higher than those prevailing in the Jalandhar Doab, but the difference now is insignificant compared with what it was formerly. The reasons of the comparatively high range of prices in Karnal before 1860 have been given by Mr. Thoburn."

"As I have noticed already, prices have, for special reasons, been abnormally high since the famine of 1877-78, and I consider we shall obtain a better idea of what they are likely to be in future by taking as the basis of our estimate the average prices of the 20 years 1860-79, than those of the twenty-five years 1830-54.

"The degree in which we should follow the averages strictly depends upon the question how far we should include in our calculations the price of famine years. * * *

"I consider, that in calculating the prices of the unirrigated staples, especially gram, maize, rice, and jowar, grown in the drier portion of the greater part of my charge, we would be justified in excluding the figures for Kharif 1860 and rabi 1861 (famine of 1860-61) Kharif 1868 and 1869, rabi 1869 and 1870 (famine of 1868-70), and Kharif 1877 and rabi 1878 (famine of 1877-78). As regards crops which are partly grown on irrigated land and only cultivated to any great extent as dry crops in the more favorably situated circles, e.g., wheat, the average prices of the whole period of 20 years should be taken, but, in deciding on the prices to be assumed, a liberal allowance should be made for the frequency of famine years."

"The following table shows (a) the average prices received by agriculturists for the principal grains in the twenty years 1860-79.

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- (b) The same excluding the prices ruling in the harvests
mentioned in the last paragraph.
 (c) The prices I propose to adopt for assessment purposes.

CROPS.	AVERAGE PRICES		Prices ad- mitted for assessment purposes.
	OF 20 years 1860-1879, EX- CLUDING 4 FAVOURABLE YEARS.	OF 1860- 1879, EX- CLUDING 4 FAVOURABLE YEARS.	
Wheat	25½	25½	27
Barley	27½	30	30
Gram	25½	25½	25
Wheat and gram	30	32½	32
Barley and gram	30½	40	35
Maize	50	52½	52
Bittergram	20	21½	21
Millets	20	24	23
Jowar	21½	23½	23
Sugarcane	50	51½	51
Zira	29½	31½	30
Coarse rice	36	39½	39
Turta	20½	21½	21
Urd	27½	28	26
Mung	28½	27½	26
Moth	27	25½	24

For wheat and barley, jowar, maize, and sugarcane, which are not included in my tables, I assume 36, 30, and 48 annas per rupee respectively. Maizum is a very inferior grain, and in a good year its price sometimes falls as low as two annas less than the rupee. * * *

"It only remains to compare the prices now assumed with those adopted at last Settlement. The result is shown in the annexed table. Mr. Wyndham adopted separate estimates for parganas Indore and Thanesar. The prices shown are the mean of the two, except in the case of coarse rice. Here I have adopted the Ludhiana price, the Thanesar figures being so low as to suggest the occurrence of some mistake":—

District.	Wheat	Rice	Gram	Sugarcane	Maize	Jowar	Daljeet	Turta	Coffee
Last Settlement	27	47	49	37	62	42	42	32	35
Present Settlement	27	39	25	21	23	10	31	21	34

Weights and mea-
sures.

287. The weights and measures of the district are divided into *karkha* and *palkhi*; the latter being the standard measure in which Government returns and records are prepared, the former the measures used by the people in their daily life. Close to the towns the villagers often use *palkhi* weights and measures; towards the Rohilkhand border they always use *palkhi*

weights and *kachha* measures; in the rest of the tract both are always *kachha*. But prices are always quoted in *pakka* weights. Thus when a villager says his field produces three maunds a *bigha*, and grain is 30 *seer* per rupee, the maund and *bigha* are *kachha*, the *seer* *pakka*.

The weights used are as follows, the *pakka* weight being always double the *kachha* weight of the same name:—

1 —		1 obitak <i>pakka</i> .
20 " "	=	4 " " = 1 pao <i>pakka</i> .
30 " "	=	16 " " = 4 " " = 1 sar <i>pakka</i> .
1,200 " "	=	640 " " = 160 " " = 40 " " = 1 maund <i>pakka</i>
11 —		= (62 1/2 lbs.)
4 pao <i>kachha</i>	=	1 sar <i>kachha</i> .
180 " "	=	40 " " = 1 maund <i>kachha</i> (1) = (41 1/3 lbs.).
111 —		
5 seer <i>pakka</i>	=	16 seer <i>kachha</i> = 1 chart.
10 " "	=	32 " " = 8 " " = 1 dhon.
60 " "	=	120 " " = 32 " " = 8 " " = pan = (122-55 lbs.)

This last is the real village measure, the weights in it alone not varying from *kachha* to *pakka*. Besides these there are *gahra* or as much as can be carried under the arm; and *khin* or as much as can be carried on the head.

The measures of length are as follows, the *kachha* yard being three quarters the length of the *pakka*, and being always used by the people:—

1 —		1 <i>ungli</i> = 1 <i>peach</i> .
2 " "	=	= 1 <i>mathi</i> .
12 " "	=	4 " " = 2 " " = 1 <i>lambat</i> or <i>lambad</i> .
24 " "	=	8 " " = 6 " " = 2 " " = 1 <i>hath</i> .
36 " "	=	12 " " = 9 " " = 3 " " = 1 <i>gahra</i> <i>kachha</i> .
48 " "	=	16 " " = 12 " " = 4 " " = 2 " " = 1 <i>gahra</i> <i>pakka</i> (2) (3 lbs.)
11 —		
2 <i>kadam</i>	=	1 <i>gahra</i> <i>kachha</i> .
22 " "	=	1 <i>jarib</i> <i>kachha</i> = (10-75 yards).
III. —		
1 <i>char</i> <i>pakka</i>	=	1 <i>gahra</i> <i>pakka</i> .
60 " "	=	20 " " = 1 <i>jarib</i> <i>pakka</i> = (50 yards).

The *ungli* is the finger breadth; the *mathi*, the closed fist; the *lambat* the span; *hath*, the cubit, or from the elbow to the finger tips; the *kadam*, the double pace.

The measures of area are as follows, each *kachha* measure being one-third of the corresponding *pakka* measure; and the people using *kachha* measures generally:—

Pakka —	20 sq. <i>mathas</i>	= 1 <i>biwa</i> .
	400 " "	= 1 sq. <i>jarib</i> = 20 " " = (1 of an acre).
Kachha —	1 sq. <i>gahra</i>	= 1 <i>biwa</i> .
	100 " "	= 1 sq. <i>jarib</i> = 20 " " = <i>magab</i> = (1/3 of an acre)

The *biwa*, whether *kachha* or *pakka*, is of course further sub-divided into *biwans*, *tiswans*, *kachwansi*, &c., each being one-twentieth of the preceding one, but the people do not talk

(1) In India the *kachha* maund is 16 or 17 Government *seer*, and the other two are both less than 5 and 10 *pakka* *seer* respectively.

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cations.****Weights and mea-
sures.**

as a rule iron of *biswa*, but of *pun bigah*, (1 bigah), *adu bigah* ($\frac{1}{2}$ bigah), &c. The scales given above are those now used, but the real difference between the *palka* and *kuchha bigah* is that the former is based upon the *gatka* and the latter on the *kadam* as its unit; each consisting primarily of a square with 20 units as its side.

Up till 1826, in which year the Government introduced the *palka bigah* of 3,025 square yards, the local *bigah* in Panipat and pargana Kurail was the present *kuchha bigah* of 1,008 square yards, which is approximately one-fifth of an acre. The proper *kuchha bigah* of Indri is one-fourth of a *palka bigah* and $\frac{1}{4}$ of an acre. But a *kuchha bigah* equal to $\frac{1}{4}$ of an acre was adopted as the standard of land measurement at the recent settlement.

There are no real measures of capacity current in the tract, grain and liquids being sold by weight. The *maw*, used to measure grain, generally holds either a mauld or a mauld-and-a-quarter; but this is only approximate, and the contents of any particular measure are always weighed to ascertain the total weight. A pinch of anything is called *rangli*; a cloard handful, *nathi*; and the contents of the two hands put open side by side, *anslet*.

Communications.

288. The figures in the margin show the communications of the district as returned in Table No. I of the Administration Report for 1889-90.

Communications.	Miles.
Navigable rivers	—
Railways	17
Mailed roads	65
Unmailed roads	300

The figures do not include the roads in the Pehora tract recently transferred to Kaithal. Table No. XLVI shows the distances from place to place as authoritatively fixed for the purposes of calculating travelling allowance. Table No. XIX shows the area taken up by Government for communications in the District.

**Rivers, canals, ferries and
bridges.**

289. The Jumna river is navigable for country craft throughout its course within the district; but is little used for the purpose. The new main line of the Chaud, now Delhi Branch, and now Hansi Branch, have been designed for navigation for boats 90 feet in length and 16 feet beam, and depth of water 8 to 6 feet, headway 11 feet. The mooring places and ferries on the Jumna and the distances between them are shown below, following the downward course of the river:—

River.	Stations.	Distances in miles.	Remarks.
JUMNA.	Chaugantra	—	Perry and mooring place.
	Kalsana	5	Do. do.
	Dabkauri	9	Do. do.
	Begi	4	Do. do.
	Mirghat	10	Boat bridge.
	Sonauli	12	Do.
	Khujsipur	11	Perry and mooring place.

The following table is a list of canal bridges on the new and old canals and their branches with distances in miles calculated from Budarpur near the Pipli and Indri border.

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cations.

List of Canal
bridges.

No.	Name of bridges.	Distance from Budarpur in miles.	Name of bridges.	Distance from Budarpur in miles.	Name of bridges.	Distance from Budarpur in miles.	
1	New Karni River.		14	Bhadrur Bridge	41	3	Jasot
2	Inder Rivulet	11	15	Thambha Ferry	43	4	Sundha
3	Gopurh	11	16	Muthrasa Bridge	43	5	Indesar
4	Kasur	11	17	Indar	43	6	Puri
5	Kanjhra	11	18	Chawana	43	7	Hans Branch
6	Dainar	11	19				
7	Dehans	11	20	Bir Bridge	43		
8	Karnal	11	21	Thora Quella Bridge	43		
9	Kallian	11	22	Silwa Bridge	43		
10	Qasripur	11	23	Mudhwa Bridge	43		
11	Burans	11	24	Joshi Bridge	43		
12	Zaid	11	25	Rohitk Branch	43		
13	Qasra	11	26	Narai Bridge	43		
14	Mahay River-branch	11	27	Ajmeri Bridge	43		
15	Inder Branch Rivulet	11	28	Other	43		
16	Inder Branch Rivulet	11	29	Karnas	43		
17	Inder Bridge	11	30	Rohitk Branch	43		
18	Inder Esanee Bridge	11	31				
19	Inder Bridge	11	32				
20	Patna Ferry	11	33				
21	Kalan Bridges	11	34				
22	Parsipat & Allonger Head Bridges	11	35				
23	Inder & Jasot	11	36				
24	Mudhwa Lock Bridge and Hall	11	37				
25	Mudhwa Ferry	11	38				
26	Hukeri Bridge	11	39				
27	Hukeri Bridge	11	40				
28	Mudhwa	11	41				
29		11	42				
30		11	43				
31		11	44				
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 cations.**

**Roads, rest-houses,
 and encamping-
 grounds.**

290. The New Delhi-Kalka Railway passes through the heart of the district and will be opened in the beginning of 1892. It has six stations in the district, Simbalukh, Panipat, Gharounda, Karnal, Tiraori, and Amin. The Grand Trunk Road passes through Karnal connecting it with Delhi on the one side and Ambala on the other, and is the only metalled road in the district.

The unmetalled roads, so far as they lie in the canal tract, are generally bad, and when they get into the zone of swamps due to the canal, all but impassable, a single cart having but little chance of getting on alone till others come up and the cattle can be doubled. But the Khadir roads, though often heavy with sand, are otherwise good; and those in the high lands are generally admirable. Communications with Rohtak, Hisar, and Kaithal are good; but the flooded belt bordering on the Sarudi and Ghagur completely cuts off the Patiala highlands for all wheeled conveyances; and, though a road has been made beyond Kaithal towards Patiala, it requires much further expenditure to develop its usefulness.

The village roads are in the canal-irrigated parts unspeakably bad. They are exceedingly narrow; and the banks which protect the cultivation being dug from the soil of the road, they become veritable sloughs in the rains; while in the canal tract the frequency of standing water, the want of bridges, and the stickiness of the salt-impregnated soil when damped by a shower, makes the road always difficult and often almost impossible, and carriage throughout the tract infinitely laborious.

The following table shows the principal roads of the district, together with the halting places on them and the conveniences for travellers to be found at each:—

Route.	Halting places.	Distance in miles.	Remarks.
Grand Trunk Road. Metalled.	Simbalukh ...	—	Encamping ground, Sarai, Police Rest-house, and Road Bungalow.
	Panipat ...	10	Encamping ground, Sarai, Police and District Rest house, and Road Bungalow.
	Gharounda ...	10	Encamping ground, Sarai, Police Rest-house, and Road Bungalow.
	Karnal ...	10	Encamping ground, Sarai, Dak Bungalow, Road Bungalow and Coast Bungalow.
	Betana ...	13	Encamping ground, Sarai, Police Rest-house, and P. W. D. Bungalow.
Khadir and Kachhi; Unmetalled.	Ximug ...	14	Sarai, Combined District and Police Rest-house.
	Pundri ...	11	Sarai, Combined District and Police Rest-house.
	Kaithal ...	10	This is a double road for light and heavy traffic. It passes through a dry tract and is an excellent road except after heavy rain.

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Routes	Haltig places	Distance in miles	Remarks.
PUNJAB EXP. KARNAL, KALYAN, COOPERATIVE	Majnuah Amudh Khakrana Paspur	15 8 22 1	Police rest-houses. District. Canal Check. Bawaliplug Ground, Barni, District and Police rest-houses. Road bunglow. A double road for light and heavy traffic.
KARNAL T.R. KALYAN, WATER PARTIES, KALYAN, COOPERATIVE	Nihola ... Kiran ... Jant ... Munuk ... Rop ... Hothi boundary	10 6 8 8 1 1	Police rest-houses. This road runs towards the Chambal river and Palitao. The part which goes through the Sarsai valley is impassable in the rain. Canal bunglow 1½ miles from road. Canal bunglow between Munuk and Rop. 1½ miles from road. Nil.
PASHPUR T.R. KALYAN, WATER PARTIES, KALYAN, COOPERATIVE	Turana ... Hothi boundary	12 15	Canal Check. Nil.
KALYAN T.R. KALYAN, WATER PARTIES, KALYAN, COOPERATIVE	Alupur ...	17	
KALYAN T.R. KALYAN, WATER PARTIES, KALYAN, COOPERATIVE	Johri ...	13	Canal Check.
KALYAN T.R. KALYAN, WATER PARTIES, KALYAN, COOPERATIVE	Thunear None	... within district	District Bunglow. A very bad road. Thru the Chambal and Hukai streams, &c.
KALYAN T.R. KALYAN, WATER PARTIES, KALYAN, COOPERATIVE	Bhera ...	8	Bawaliplug horse-ground, Barni, P. W. B. Bunglow. A bad road.

(1) This road strikes off from the Grand Trunk road 3 miles from Karnal
and is metalled for a short distance.

Chapter IV. D.

**Fries. Weights
and Measures,
and Communi-
cations.**

பின்து, வாட்டுமொத்தம்
வாட்டுமொத்தம்.

Route.	Hailing places	Distance in miles.	Remarks
Muzrai to Pipli, Umaria, Bilaspur, Ratlam.	Pipli	12	Beedi, combined district and Police Rest- house.
Muzrai to Muzrai, Gwalior, Bhopal.	Pipli	19	Ditto.
Muzrai to Naraini, Shivneri, Almorah. etc.	Muzrai	12	Police Rest-house at Narsingi Canal Bungla- low at Muzrai.
Almorah to Almorah.	Almorah	6	Police Rest-house.

There are also unmetalled roads from—(a) Kaithal to Pahowa, (b) Kaithal towards Thanesar, (c) Kaithal towards Jindh, and Kaithal towards Sabarnapur. A road connects Pahowa and Thanesar, but owing to the flooded state of the country near the former town it is usually in very bad order.

Other unmetalled roads are :-

				Number District
Kernal towards Asanah				29
Da.	Manat	...	...	6
Da.	Potengpore	...	...	21
Patipat	Sannal	...	...	10
Da.	Habut	...	...	18
Da.	Niang	...	...	26
Iadit	Clampongna	...	...	12

On these there are no fixed halting places.

There is a good unmetalled inspection road available for light wheel traffic along the left bank of the new main line, new Hoshi Branch and new Dabir Branch, and a fair road along the old canal and its branches below the Badshahi Bridge on the Grand Trunk Road. But the Canal Department do not allow these roads to be used by the public. There are inspection bungalows on the old and new canals, with furniture only; they are situated at Indri 15 miles from Karnal, at Phurak 12 miles, and at Rop 24 miles below Karnal, also at Israna, Lohara, and Joshi; at Ramkha on the new main line, 9 miles from Karnal. Karnal itself on the new main line, Jaiti 7 miles from Karnal on the new main line, and Muzak 15 miles from Karnal at the bifurcation.

The Karnal *Dak Bungalow* is completely furnished and provided with servants. The district and Police rest-houses have furniture, crockery, and cooking utensils, but no servants. The canal chautias and road bungalows have furniture only.

There are Post Offices with Savings Bank and Money Order Offices at—1 Karnal; 2 Panipat; 3 Gharanwala; 4 Simballes; 5 Alipur; 6 Asandhi; 7 Nisang; 8 Pandri; 9 Bhana; 10 Guhla; 11 Kunjpura; 12 Indri; 13 Kaithal; and village post offices at—1 Tiroori; 2 Barot; and 3 Naulotra.

Chapter V. D.

Prices, Weights,
and Measures,
and Communi-
cations.

Post offices.

CHAPTER V.

ADMINISTRATION AND FINANCE.

SECTION A.—GENERAL ADMINISTRATION.

Chap. V, A.

General
Administration
Estimates and Jull.
list.

Tahsil	Engages	Tanaili and wakonchi
Karnal	2	1
Pampat	2	2
Kaithal	2	4

by a Naib. Since the Kaithal tahsil has been enlarged by the transfer to it of 89 Pehowa villages, an additional Naib Tahsildar on Rs. 70 per mesom has been stationed at Gahlia. The village revenue-staff is shown in the margin.

There is one Munsif in the district, who has jurisdiction within the Karnal and Pampat tahsils, and also in pargana Azimnagar of the Kaithal tahsil. He suitorately for 2 months at Karnal and 2 months at Pampat. The statistics of civil and revenue litigation are given in Table No. XXXIX.

The executive staff of the district is assisted by Bhai Jasmer Singh of Arpanali, Bhai Amokh Singh of Siddhawali, Mir Riaz Hussain, of Kaithal, and Shamsher Ali Khan Mundal, of Karnal. The first has the powers of a Magistrate of the 1st class, the second and third 2nd, and the last 3rd class powers. The first two exercise magisterial powers within the limits of their respective jagirs and the last two in the towns of Kaithal and Karnal.

The Police force is controlled by a District Superintendent.

Name of Police	Total strength	Strength 1880	
		Engaging constab.	Stationary constab.
District Superintendent	120	80	402
Munshi	20	..	133

The strength of the force as given in Table No. 1 of the police Report for 1880 is shown in the margin. In addition to the force 30 *dafadar* and 1,095

villagers watchmen (see Chapter III) are maintained and paid by the villagers half-yearly at each harvest time.

The *thanas* or principal police jurisdictions and the *chauris* or Police posts on the Trunk Road, are distributed as follows:—

TASIL KAKSAL.—*Thanas*—Karnal Sade, Karnal city, Nisang, Gharaunda, Butam, and Indri. *Road posts*—Samana, Natura, Tikana, Shaugark, Uchana, Miran Ghat, Poi Badshahi, Jhal, Gharaunda, Kohund, and Badonl.

TASIL PANTIPAT.—*Thanas*—Panipat, Alipur, and Simbalica. *Road posts*—Panipat, Seri, Machkrali, Simbalica, and Patti Kalanur.

TASIL KATTAUZ.—*Thanas*—Kathal, Gehla, Rajamot, Asaulli, Pindri, and Pehowa.

There is a cattle-postal at each *thana* and one at Kunjpura, the former under the control of the police and the latter under the *Tahsildar* of Karnal. There are also pounds at Singla, Her, Phurlak, Naulha, Khukrana, Pubri, Israna, Jusbi, Nowana, Goli, Sink, and Kurana, under the management of the Cattle Department. The district lies within the Ambala Police Circle, under the control of the Deputy Inspector-General of Police at Ambala.

The district gaol at head-quarters consists of some old gun-sheds, to which barracks and work-sheds have been added. It contains accommodation for 262 prisoners. Table No. XL gives statistics of criminal trials, Table No. XLI of police enquiries, and Table No. XLII of convicts in gaol.

202. The Bilochis and Tagas

are proclaimed under the Criminal Tribes Act having been brought under the Act in 1876 and 1881 respectively. In 1889, 274 Tagas and 199 Bilochis were on the register. The number of Bilochis on the register has been

Criminal tribes, and
crimes.

Tribe.	Men.
Tagas	274
Bilochis	199

more than doubled by the transfer of 89 Pehowa villages to Ambala, as a good many Bilochis live in the Pehowa Nahi. Tagas are very troublesome. 236 members of the tribe had succeeded in evading registration up to the end of 1889. During the year, 29 were convicted under the provisions of the Criminal Tribes Act, and six for theft and house trespass. During 1889 ten Bilochis were convicted within the district, but Karnal Bilochis were brought to trial in Delhi, Mulerkotla, Pithala, and even as far off as Darbhanga.

Cattle-stealing may be said to be the normal crime of this district, the Nardak wilds affording much facility for its successful accomplishment. Thefts of this nature are performed in a very systematic manner, the animals being rapidly transferred to great distances, and to other districts through the medium of accomplices. Cattle-lifting, however, is becoming less prevalent than it was. Formerly the greater families or even headmen of villages would occasionally demand to give a daughter in marriage to a man who had not proved his capability to support

Chapter V. A
General
Administration.
Executive and Judi-
cial.

Chapter V. A.**General Administration.**

*Revenue, Taxation,
and Registration.*

a family by cattle theft; and before British rule cattle raids on the most extensive scale were by no means uncommon throughout the Kathua and Asandh *parganas* of the district.

293. The gross revenue collections of the district for the last 22 years, so far as they are made by the Financial Commissioner, are shown in the Table No. XXVIII, while Tables Nos. XXIX, XXXV, XXXIV and XXXIII give further details for Land Revenue, Excise, License Tax, and Stamps, respectively. Table No. XXXII A shows the number and situation of Registration offices. The central distillery for the manufacture of country liquor is situated at Karnal. Table No. XXXVI gives the income and expenditure from district funds, which are controlled by a District Board and 3 local boards, one for each *taluk*, constituted under Act XX of 1889. The District Board consists of 37 members, 25 of whom are elected, 9 nominated, while 3 have seats in virtue of the offices which they hold. The three local boards have in all 52 members, 45 of whom are elected, 9 nominated, and five have seats *ex-officio*.

Table No. XLV gives statistics for Municipal Taxation whilst the Municipalities themselves are noticed in Chapter VI. The income and expenditure of provincial properties managed by the District Board in 1889-90 is given below:—

Detail.	Income	Fixed Com- pensation paid by Govt. ment and in- volved in column 2	Expenditure	Fixed Com- pensation paid to Govt. ment by involved in column 3
Ferries	Rs. 12,373	Rs.	Rs. 10,915	Rs. 11,000
Cattle Pounds	2,108	...	1,100	200
Dak Bungalows	114	184	1,248	119
Naval Properties	68		619	
Total	15,491	184	10,749	11,319

The ferries and bungalows have already been noticed in para. 289-290 and the cattle-pounds in para. 291. The naval properties in the Karnal district consist of 17 old buildings, 12 gardens and 15 pieces of waste land and sites of old forts, &c. Among the old buildings there are 1 *sarai* at Karnal, 2 gateways which remain of the old Imperial *sarai* at Ghuramunda said to have been built in the time of Shahjahan, and one palace fort at Kalital. The *sarai* at Karnal was built by a banker named Bhura Hal in the time of the Emperor Akbar. The old palace fort at Kalital belonged to the Bhais of Kalital, and became Government property when Kalital fell to the British on the failure of the ruling line. Figures for other Government estates are given in Table No. XVII, and they and their proceeds are noticed in the succeeding section of this Chapter, in which the land revenue administration of the district is treated of.

294. Table No. XXXIX gives figures for the principal items and the totals of land revenue collections since 1858-59. The remaining items for 1857-58 and 1888-89 are shown in the margin.

Source of revenue.	1857-58.	1888-89.
Surplus warrant balances.	Rs. 175	Rs. 329
Revenue fines and forfeitures	811	844
Fees	—	—
Total charges of miscellaneous land revenue	1,076	2,183
	—	81

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General
Administration,
Statistics of land
revenue.

Table No. XXX shows the amount of assigned land revenue; while Table No. XIV gives the areas upon which the present land re-

venue of the district is assessed. The statistics given in the following tables throw some light upon the working of the Settlement—Table No. XXXI—Balances, remissions, and *takali* advances. Table No. XXXII—Sales and mortgages of land. Tables Nos. XXXIII and XXXIII A—Registration.

295. Table No. XXXVII gives figures for the Government and aided, middle and primary schools of the district. There are middle schools, for boys, at Kurail, Panipat, Kaithal, Kunjpura, and Pundri; while primary schools are situated at Amin, Baras, Bairsa, Barsai, Faridpur, Jindla, Ghir, Gharaunda, Imli, Shergarh Tapu, Gondar, Manak, Nisang, Ganjogarhi, Chaura, Rambha, Bala, Barragon, Tiraori, Kachlwa, Ghogriqunt, Saman, Kunjpura, Kurail, Kasurai Branch, Manan Bhauja Branch, Sadi Branch, Sarai Branch, Dicnsura, Barsai Girls' School, in the Kurail tahsil; at Simbhalka, Jaurasi, Patti Kalima, Sirak, Babul, Manasa, Naultha, Isana, Harsala, Mandi, Pash, Urdha Kalan, Kawi, Kotam, Panipat, Rajputan Branch, Ansar Branch, in the Panipat tahsil; and at Faizpur, Chika, Habri, Siwan, Asandh, Aranbi, Pharni, Bhagal, Keoruk, Galba, Bala, Poi, Kaithal, Pundri, Pekowa, Sarsa, Kasi, Gomihula Garhi, Kaithal Ursia Girls' School, Kaithal Nagri Girls' School, Pundri Girls' School, in the Kaithal tahsil. The district lies within the Ambala circle, which forms the charge of the Inspector of Schools at Delhi.

Education.

Table No. XIII gives statistics of education collected at the Census of 1881; and the general state of education has already been described at page 85. Among indigenous schools the Arabic school at Panipat is worthy of notice. It is supported by the voluntary contributions of the more wealthy Moslems, and some 30 to 40 boys attend, chiefly sons of the middle-class Muhammadans of the town. Ladies of the Delhi Zanana Mission are located at Kurail, and visit women in the city and teach them and their children.

The Karnal School, formerly called the District School, was established in 1860. Its management was handed over to the Municipal Board in 1886. The main School consists of Middle and Upper Primary departments and one class of the

Chapter V. A.
General
Administration
Education.

Lower Primary department. Connected with the School there are four branch lower primary schools, all situated within Municipal limits, and a Boarding House, located at present in the old town.

The staff consists of a head-master, a second master, a mathematical teacher and a Persian teacher in the middle department, two English and one Persian teacher in the upper primary, and five Persian teachers in the lower primary department and in the branch schools. One of the latter has also a Nagri teacher.

The following table shows the expenditure, number of pupils, and result of examinations for the past five years:

YEAR.	Expen-		Canalisation for Middle School Kasaulibagh	Passed in Middle School Examina-	Canalisation for the Upper Pri- mary Examina- tions	Passed in the Upper Primary Examina- tion	Qualified for the Lower Primary Exam- ination	Passed in the Lower Primary Exam- ination	Passed in the Upper Primary Examination
	Annual duty	Average no. of pupils							
1892-93.	Rs. 6,216	362	19	13	27	17	43	29	29
1893-94.	6,587	321	17	10	22	12	38	29	29
1894-95.	6,511	335	32	6	17	16	42	35	35
1895-96.	6,721	360	14	9	20	15	37	34	34
1896-97.	6,531	367	23	18	31	16	39	37	37

Medical.

296. Table No. XXXVIII gives separate figures for the last five years for each of the dispensaries of the district which are under the general control of the Civil Surgeon, and in the immediate charge of Hospital Assistants at Karnal, Panipat, Kaithal, Kunjpura, and Asanli.

The Sade dispensary of Karnal, which was founded in 1861, is situated at the north-west corner of the town, between it and the civil lines, and contains accommodation for 22 male and 12 female in-patients. Its staff consists of an Assistant Surgeon, a compounder, a dresser, two apprentices and manials.

Engineering.

297. There is a small church at Karnal capable of seating about 50 persons. No Chaplain is posted here, but one of the Missionaries at Delhi visits Karnal occasionally to hold a service at the station.

Head-quarters of other departments.

298. The whole of the main line of the Western Jumna Canal from the head at Tajawala to Munak and the Hissar Branch, which extends to some distance below Hissar, are under the charge of the Executive Engineer, Karnal Division, stationed at Dadupur, in the Jagadhari tahsil of Ambala. The new Delhi Branch, which runs from Munak to Delhi, is under the charge of the Executive Engineer, Delhi Division, stationed at Delhi, in which Division the old Rehtak Canal irrigation is also in

gated. The head-quarters of the Executive Engineer in charge of the construction of the Sircsa Canal are at Karnal. The Western Jumna and Sirhind Canals are included in the Circle of the Superintending Engineer, Cis-Sutlej Circle, whose headquarters are at Ambala. The Grand Trunk Road in the Karnal District is under the Executive Engineer, Provincial Works Division, Ambala, who has charge of the public buildings of the district, while he is subordinate to the Superintending Engineer, Lal Circle, at Ambala. The Military buildings (stables for the cattle and horse farms) are in charge of the Executive Engineer, Military Works, at Ambala, and the Superintending Engineer, Military Works, at Lahore. The Post Offices are controlled by the Superintendent of Post Offices at Delhi.

Chapter V. A.

General Administration.

Head-quarters of other departments.

SECTION B—LAND AND LAND REVENUE.

Introductory.

239. It may be imagined, from the manner in which the district was constituted, that its revenue history is exceedingly complicated. The primary division of the district is into two portions—that which came to us in 1803 and formed part of the old Panipat district, and that which came to us through cessions of the territories of Sikh chiefs brought under our protection in 1809, and was included in the old Thanesar district. The settlement of the former was revised by Mr. Ibbetson, in 1872-80, that of the latter has recently been revised by Mr. Bouie. Each of these main divisions may again be sub-divided. Of the Panipat district, the part assigned to the Mandals has a very different fiscal history from the *khatas* portion; while of the Thanesar district, nearly the whole of the Kaithal tehsil and a few villages in the Indri Nardak were settled separately from the rest of *pargana* Indri. Thus the present section will be divided into three portions, the first treating of Kaithal and Indri, the second of the old Panipat district, and the third of general matters common to both.

PART I.—KAITHAL AND INDRI.

240. The Sikh revenue administration of the Kaithal tract is thus described by Captain Abbott:—

Sikh revenue system
in Kaithal.

"The revenue collection was nominally a *batai* of one-third or one-fourth of the produce, with *takht*, or fixed rates of one rupee per *karchha* *bigha*. The one-third produce was taken generally, but one-fourth in some of the Bangar villages; but in addition to this numerous taxes made up the revenue. In the *parganas* where the *sohi* crop is unknown, and indeed in others where it promised unfairly, an arbitrary assessment was fixed, which, in addition to the numerous taxes, was collected by the zamindars by a "lochh" upon cattle, pollas, hearths, and ploughs in the Bangar, but on the three latter only in the Kaliar *parganas*. It may be interesting and instructive to record the items that

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Land and Land
Revenue
With a comparison
to Kathiawar

composed the revenue of a village for a *nabi* instalment as demanded by the state, and which it must be remembered is exclusive of many items that swell the village account. For instance, the village of Harsaula paid as follows :—

	R. A. P. 310 9 0
Yuktakas, or third demand for one crop	
Percentage on ds. at Rs. 25/-	R. A. P. 2 0 9
Ghoda	R. 0 1 0
Revenue to State	R. 0 0 0
<i>i.e.</i> , to Mewat	R. 0 0 0
Kas to fall the Bonds	R. 0 0 0
Briks in revenue form, &c.	R. 0 12 0
Kas khilasana to	R. 0 0 0
Talukda	R. 0 0 0
Khajra rate fixed at Rs. 1	R. 0 0 0
Prasandis	R. 0 0 0
Dhal or expense of collection	R. 0 7 0
Amar, i.e. peasant and Revert keeper	R. 0 0 0
	R. 0 0 0

"This is not given as a solitary instance, but as a type of the prevailing system. Each village furnished a certain number of Chauars who, if not required, paid one rupee per bigha per bigha. The sum above entered as fixed was arbitrarily fixed, according to the season and past collections. When the fairs prevailed, which was usual only when the crops prospered well, a poll tax of Rs. 2 per bigha was taken in addition, but a cutch tax had never been demanded by the State as is usually supposed. When the *Mahabat* system was adopted, it included the poll tax. * * * * The powerful villages only paid so much, *as much as they found convenient to do*; those of Bal and Uddotra invariably resisted the forces of the Bhor, which were either unable or unwilling to make an impression upon them."

Summary Settlements

301. Kathiawar was occupied in April 1843 and in the November following Major (afterwards Sir Henry) Lawrence had completed a summary settlement for three years. His interesting report is printed in the "Extracts from his report on the Settlement of the provinces formerly comprised in the Thanasser District." He got statements which he considered "tolerably correct" of the Sikh collections from 1838 to 1847. He says that he made this ten years' average the basis of his assessment; but in fact he did not follow his figures at all closely, but trusted a good deal apparently to his personal inspection of villages. The revenue he fixed was in most cases a good deal heavier than those paid before the recent revision, though the taluk was in a very undeveloped condition. No doubt the assessment, like all the summary settlements made in the injured Sikh states on this side of the Sutlej, was too severe. At the expiry of three years it was continued for another year by Captain Abbott, the *cum* of

(1)—apparently a mistake for 2/-.

(2)—i.e. a deduction.

some villages, which objected to renew their leases on the old terms, being considered and a few reductions granted.

302. Lawrence believed that the tributary would develop rapidly, and somewhat rashly predicted that when his three years' settlement was over an enhancement of 50 per cent. would be realisable. As a matter of fact progress was slow. The seasons were unsatisfactory both as regards health and crops; and men's minds were disturbed by the fear that Kaitlud would be handed back to Mai Ldy Singh's widow, or to his nearest collateral relative, the Bhai of Aranali. When Captain Abbott made his Regular Settlement in 1847, he did not valuation the total demand in any great extent, but he altered the distribution a good deal, reducing the estates he considered weak. He failed to see that Lawrence's revenue was far too high. Captain Abbott assessed few of the Powadh villages. The demand he fixed was collected for eight or nine years without the exertion of very heavy balances; but his record and assessment were both considered so bad that the settlement was not rejected by Government for taxation, and finally Captain Larkin was ordered to do the work over again.

203. His operations lasted from 1853 to 1856. He divided the villages, with the exception of one estate which by Mr. Wynyard, into 21 circles, some of which do not now belong to the *kaithi*. It would be fruitless to detail the assessment rates, which were pretty numerous and founded on mere minute distinctions than bottlenose officers of the present day think it worth while to make. But the following table, which exhibits the Pohowa estates recently transferred to Kaithal, shows with approximate accuracy the average rates paid by Captain Larkins in assessing the chief classes of land as thus recorded in the villages included in the assessment circles of the revised settlement:—

Chapter V. II.

Land and Land Retention

Captain Almon's
Register Bellman
1847

Captain Lakin
Regulator Committee
1851

Chapter V. B.
Land and Land
Revenue.

Captain Larkins'
Regular Settlement,
1855.

Of the 89 Pehowa villages added to Kaithal in 1839, 81 are included in the Nall Pehowa and Bangur Pehowa circles, the remaining eight formed part of the Southern Chaudhura Circle of Pipli, and were settled by Mr. Wynyard, as they had been included in the Thanesar State. Captain Larkins' average rates in Pehowa were approximately :—

Circle.	Sail.	Dhages.	
		Rs. A. P.	Rs. A. P.
Nall Chahil	2 8 0	1 8 0
Bawali Chahil	1 14 0	1 11 0
Baking Abhi	1 0 0	1 8 0
Bawali Barwali	1 1 0	1 0 0
Bukar	1 3 0	0 15 0
Total on cultivation of revenue as assessed...		1 5 5	1 1 9

The following table shows the revenue which he imposed on each Circle, and the revenue as it existed immediately before the recent revision :—

DETAILS	Nall.	P. B.	Abhi.	Barwali.	Pipli.	Nall K. Batal.	Nall Pehowa	Dhages P. B.	Dhages P. B.	Pipli
Demand of Cap. taine Larkins (as at 1st August, 1855.)	Revenue	10,795	11,411	12,812	21,220	42,803	31,289	31,700	3,00,000	
	Dues on cultivation and rents	0-11-4	0-10-2	1-10-3	1-1-1	1-4-0	1-6-2	1-1-2	1-23-21	
Demand as at 1st August 1855 (including all areas)	Revenue	34,000	37,700	33,000	33,500	46,300	32,000	31,412	3,00,000	
	Lands ex- cluded from settlement	0-6-2	0-5-4	1-4-8	1-0-10	0-12-10	0-14-0	0-1-0	0-2-0	

The figures for the Pehowa Nall and for the Dowadh include the revenues of two small estates settled by Mr. Wynyard.

In some circles considerable sums of money were charged for old and new waste, and this explains the excess of the revenue actually taken over that brought out by the rates.

Captain Larkins reduced Captain Abbott's demand by about one-fifth. His settlement worked well. The Kaithal and Pehowa Bangur and the Naparki rates were not too heavy considering the boundless room for expansion then existing. It must be remembered that large areas were recorded as *julid*,

which under our present system would be assessed as cultivated. When allowance is made for this the Bangar dry rate did not exceed eight-and-a-half annas. The Andarwar dry rate was certainly heavy. There is nothing to justify the wide distinction made between the assessed value of unirrigated soil in the Andarwar and Bangar. But here, too, there was a good deal of land to be broken up. The Nailli assessment appears to have been severe, but it was far lower than that made by Captain Abbott. The Powadh was leniently treated. It is curious to find the hard *sarith* of the Nailli (most of which was classed by Captain Larkins as *dadar baran*), which yields crops whose precariousness cannot be exaggerated, assessed at higher rates than the light productive loans of the Powadh. Neither Captain Abbott nor Captain Larkins grasped the fact, that, given a scanty rainfall and no irrigation, it is the lighter loans that are the best soils. Of course where all the land is hard, as in the Nardak, the position of the stiffest soils may make them the best, but that is due to the fact that rain water drains into them off the higher lands.

204. The changes in the demand between 1856 and the recent revision of settlement were unimportant. About Rs. 3,000 were added on account of the assessment of petty rent free grants, and some Rs. 2,000 taken off on account of reductions of assessment granted by Captain Elphinstone and Captain Davies, when they revised Thanoxar Settlement.

Chapter V, B. Land and Land Revenue

Captain Larkins'
Regular Settlement,
1856.

*Borrower history
after Captain Lar-
kins' Settlement.*

Suspensions were granted in the famines of 1868-69 and 1877-78, in 1880-81, and probably in some other years. Since the revision of settlement began in 1882 this policy adopted has been to suspend freely in bad seasons in the Bangar, Nardak, and Nailli. In 1883-84, Rs. 38,774 were suspended. In 1884-85 Rs. 18,462, in 1885-86, Rs. 40,819, and in 1887-88 Rs. 15,472, making a total of Rs. 1,13,528⁽¹⁾. Of this large sum only Rs. 2,805 remained uncollected in December 1888. Government runs little risk in marking large suspensions here, for it is the very tracts in which failure is most frequent and most complete that have the largest surplus in good years. The relief to the people is great, for they are saved from borrowing at aurious rates of interest. If this course has been good policy in the past, it will be absolutely necessary in the future, now that the demand in the Nardak and in the Kairhal and Pehowa Bangars has been greatly enhanced.

205. Before discussing the revenue history of the Indri pargana it will be convenient to finish that of the Kairhal tahsil by describing the result of the recent revision of settlement carried out by Mr. Douie. The Karnal-Ambala settlement embraced the Kairhal tahsil and Indri pargana of Karnal, and the Pipli and Jagadhri tahsils of Ambala. It lasted from May 1882

*Revised Settlement
of 1882.*

(1) These figures relate to the Kairhal tahsil as it was constituted before 1882.

Chapter V. D.
Land and Land
Revenue.

Recent Settlement
of 1858.

Assessment Circles.

Assessment of
Pawali Circle.

to April 1859. The 89 villages of the Pohowa purpana transferred to Kaithal at the close of Settlement were reported open in the Pipli Assessment Report:

The following account of the assessment of Kaithal is taken almost entirely from Mr. Doug's Settlement Report.

306. The tehsil as now constituted includes seven assessment circles¹ and a fragment of another circle, the bulk of which has been left with Pipli. The division into circles would have been somewhat modified, had Pohowa formed part of Kaithal when it was assessed. A short account of the assessment of each circle is given in the following paragraphs.

307. The Pawali includes parts of the villages to the north of the Ghaggar. Out of 37 estates 27 are wholly, and 2 partly, in jगर. The total area is 39 square miles, of which 34 are cultivated. The grazing lands are worth very little. The area in cultivation and jodid amounted to only one per cent. Population advanced by 10 per cent. between 1825 and 1858, and has since remained stationary. Three-fourths of the land is owned by Jats and Jat Sikhs and most of the rest by Raiks and Saries. The cultivators are therefore of an excellent class, and their condition is generally satisfactory, though there is no super-abundant prosperity. Transfers are rare, and the average price of the land is only Rs. 20 per acre, or 10 times the revenue. The average sowings for the four years 1853-54 to 1856-57 were 93 per cent., and the average on which crops were reaped 82 per cent., of the recorded cultivated area. These figures are low for a tract with so much irrigation and show that the dry cultivation is precarious, though less so than in any other circle. The bahi rate is usually 1*ad* and the few cash rents are very low, averaging Rs. 3-8-0 for irrigated, and Rs. 1-6-2 for unirrigated cultivation. The half assets share is 14 per cent., and the half assets estimate only amounted to Rs. 20,000.

The revenue, was Rs. 25,626, rate Rs. 1-2-10 per acre of cultivation. The proposed rates, which were approved by Government, were—

Detail.	Acre.	Date.	Demand.
Choti	1,716	2 12 0	Rs. 0
All and above	11,157	1 0 0	11,157
Tehsi, daur, and mukhi	5,763	0 11 0	0 00
Total	21,636	1 4 11	21,636

(1) For the physical features of the different Circles see page 7-19.

The revenue actually imposed amounted to Rs. 28,510. The enhancement was Rs. 2,884 or 11 per cent. The incidence is Rs. 1-4-11 per acre on cultivation and Rs. 1-7-5 per acre of crops harvested in the 4 years 1883-84 to 1886-87, Rs. 15 per plough, and Rs. 10 or 11 per owner.

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Revenue.

308. The small Andheria circle is on the watershed between the Sarsuti and Ghaggar, contains 16 villages, and covers an area of 52 square miles; less than two-fifths of which are under tillage. Most of the uncultivated land is bad kalar, and little expansion can be looked for. Of the cultivation, 46 per cent. is reported as well-watered, but even in the driest year the actual irrigation falls far short of the measurement figures. Since the settlement of 1865 cultivation and jisid have risen by 181 per cent., but the advance is in the uncertain dry cultivation. There has been no increase in the number of wells. In 1865 the population was dense, and it has increased but little since. The land-owners are blundering and hardworking Jats. Only three of the villages can be called very prosperous, four or five near the Ghaggar and Sarsuti are in a declining state owing to the prevalence of disease, the rest are in ordinary circumstances. The soil is a strong loam and the dry crops are very precarious. But, thanks to the diligence with which the wells are worked, most estates can pull through a bad season or two without assistance. The grazing lands are very bad; but fodder crops are largely grown, and the people keep a large number of cattle.

Assessment of
Andheria Circle.

The revenue amounted to Rs. 15,712 falling at Rs. 1-4-7 per acre of cultivation. It was very high judged by Keihul standards and much heavier than that paid in the Belowna Banjar and Indri Nariak. The hall mawat estimate was only Rs. 10,800. The rates proposed by Mr. Doshi and accepted by Government and the resulting demand were:—

Detail.	Acrea	Rates	Demand
		Rs. A. V.	Rs.
Cultd. ...	... 3,401	2 13 0	8,331
Other cultivated land ...	8,739	0 12 0	10,488
Total ...	12,140	1 13 0	18,819

This involved a trifling enhancement of 3 per cent. The revenue actually amounted was Rs. 16,280, being 1-3-7 per acre of cultivation and 1-12-5 per acre of crops harvested in four years, about Rs. 20 per plough, and Rs. 6 or 7 per owner.

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Revenue.****Assessment of Nar-
dak Circle.**

909. The Nardak circle contains 96 estates occupying an area of 384 square miles, of which rather more than one-third is now under cultivation. Only one per cent. of the cultivated land is irrigated from wells. Since the settlement of 1830 cultivation and new fallow had increased by 100 per cent., ploughs had about doubled, and population had risen by 45 per cent. About half of the soil is owned by Rajputs. The remaining half is chiefly in the hands of Rors, Jats, Brahmins, and Gujars, good cultivators, Jais and Rors, owning less than one-third of the whole. The tract is healthy and the people are strong of body and generally in fair circumstances. There is a good deal of debt, but this is often traceable to the expenditure of money in criminal cases, for cattle theft is still common. Transfers are rare, because land in these parts is a very bad form of security. Rents are very low, and the amount of the half assets share was taken as 9 per cent. for irrigated and 11 per cent. for unirrigated crops. The soil is strong and stiff, yielding excellent crops when the rainfall is copious, which it rarely is in the south of Knthal. In a bad season the failure is complete. Taking an average of four years 75 per cent. of the recorded cultivated area was sown, and crops were reaped off 60 per cent. The percentages of crop areas to cultivated area for four years were 24, 93, 74, and 43. The chief crops are millets, pulses, and rice. The people depend largely on their cattle, and some of the villages let grazing to outsiders.

The demand was Rs. 24,081, falling at annas 6½ per acre of cultivation. This was easily paid in good years, but in bad years the people had to borrow both to feed themselves and to pay the revenue. The rates proposed and the resulting revenue were—

Detail.	Acre.	Rates.	Demand.
		Rs. A. P.	Rs.
Chah and abd.	673	2 0 0	1,346
Date and melab.	17,413	0 7 2	7,906
Other cultivated land.	58,304	0 4 0	23,324
Grazing land.	145,671	0 1 4	15,183
Add owner's rate at 1st occupancy			
1820	...	...	8,744
Total	239,290	0 9 1 per cent (12½) m.	24,081

The half assets estimate amounted to Rs. 34,561 or adding Rs. 4,000 for the Government share of the jowar straw to Rs. 38,561 while the proposed assessment on cultivation was Rs. 38,994. Government decided that the owner's rate must be fixed at $\frac{1}{3}$ occupier's rate in the rest of the district, and the grazing rate raised to 13 annas. The revenue assessed was Rs. 40,175 or adding Rs. 5,618 on account of owner's rate Rs. 44,793. The latter sum fell at 10 annas on the cultivated area, and 17 annas on the average area of crops harvested in four years.

310. The Kaithal Bāngar, which occupies the western half of the southern uplands has an area of 362 square miles, nearly two-thirds of which are under tillage. The well irrigation is of very trifling amount. The increase in cultivation and jaukh since 1856 was 73 per cent., and the rise in the number of ploughs 65 per cent. In some of the largest estates there is no waste left, and in most villages the plough has been driven quite as far as is desirable. Excluding the town of Kaithal the increase of population amounted to 83 per cent. The landowners are mostly Jats. They are as a rule in very fair circumstances, but their state cannot be described as one of abounding prosperity. There is a good deal of debt, but transfers are few and unimportant. The soil is lighter than in the Nardak, but except in the south-west of the circle may fairly be described as stiff. The crops grown are the same as in the Nardak, but the tillage is more careful. The fluctuations from year to year are extreme. The four years' average showed the area sown as 82 per cent. and the area off which crops were reaped as 65 per cent. of the cultivated area. The detail of crops harvested for the four years was 21, 93, 91, and 68 per cent. Though the grazing area has been much curtailed, the people manage to keep a large number of cattle. Rents, where they exist at all, are low, and the half assets share is the same as in the Nardak.

The demand was Rs. 40,268 falling on cultivation at annas 5 $\frac{1}{2}$ per acre. The proposed rates and the resulting revenue were—

Detail	Acre.	Rate.	Demand.
			Rs. A. P.
Ghobi ...	600	2 0 0	1,200
Other cultivated land ...	130,000	0 7 0	91,120
Grazing ...	88,394	0 0 6	5,311
Add owner's rate at $\frac{1}{3}$ occupier's rate ...	...	...	3,109
Total ...	217,394	0 7 3	98,141
		on cultivation	

This gave an increase of 48 $\frac{1}{2}$ per cent. The half assets estimate including Rs. 10,000 for the Government share of jowar straw was Rs. 72,092, and the proposed assessment on cultivation Rs. 71,020. The owner's rate was raised to half

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Revenue.

Assessment of Kalital Bangar Circle.

Assessment of the
Kalital Nall Circle.

occupier's rate, as in the Nardak, and the grazing rate 16 pice anna per acre. The revenue actually assessed was Rs. 69,120, or including owner's rate Rs. 76,780. The latter sum fell on cultivation at 8½ annas and on the average area of crops harvested at about 13 annas.

The dam and finally imposed on the Nardak and Bangar is a pretty stiff one in existing circumstances, and Government has recognized the fact that suspensions must be freely given in such cases. The circumstances of many of the estates in both these circles will soon be greatly altered by the completion of the Sirsa Canal.

311. The Kalital Nall consists of the villages flooded by the Ghaggar and the Sarsuti. It has an area of 218 square miles, of which 79 are cultivated, 87 come under the head of culturable waste, and the rest is barren. There is room for expansion, but little can be looked for unless the flood water is better distributed, and disease, which is the curse of the whole tract, is checked. The rise in plough oxen was 19 per cent. and in cultivation and jadid 20 per cent. The increase in cultivation consisted to a great extent in the bringing again under the plough of land which had been for a time abandoned. Population had remained stationary. It is of a more mixed character than in the circles already described, but Jats predominate in the Ghaggar, and Rajputs and Gejars in the Sarsuti, village. The condition of the land-owners is unsatisfactory, and the Ghaggar villages are in a very depressed state. The precariousness of the harvests cannot be exaggerated, but the prime evil from which the people suffer is disease. The average area of crops sown is 85 per cent. and of the crops harvested 63 per cent. of the cultivated area. The detail of crops harvested for four years is 29, 93, 70, and 59 per cent. Transfers are more numerous than in any other circle, but the total is not large, for there is little demand for land. Rents are low, and the Government's half-rents share is 11 per cent.

The villages may be divided into two groups, some of the leading statistics of which are given in the following table:—

CIRCLE.	CULTIVATED AREA IN ACRES		POPULA- TION		PEASANTS		WELLS		Per cent. of cultivated land under irrigation	Per cent. of total area under irrigation
	1881	1882	1881	1882	1881	1882	1881	1882		
47 Ghaggar villages ..	Acres. 11,126	11,270	9,000	9,327	629	607	147	139	61	14.00
41 Sarsuti villages ..	12,997	13,200	11,200	11,300	7,145	7,137	244	239	62	11.50

Whatever improvement has occurred belongs to the second group. The Ghaggar villages have declined. If the bed of the River Ghaggar (para. 13) is cleared of silt yearly, and this should certainly be done, half of the Ghaggar Nall villages may be raised out of their present wretched condition.

The demand was Rs. 46,801, rate annas 14-10 per acre cultivated. The half assets estimate was only Rs. 26,858. The proposed rates and revenue were:—

DETAIL	ACRES	RATES.	Demand.
			Rs.
Chah and old	2,722	Rs. A. P.	7,036
Kallib	32,922	0 14 0	95,362
Other cultivated land and jaddi	29,028	0 9 0	11,627
Grazing	23,000	0 0 0	2,512
Total	100,102	0 13 8	47,852
		on mitigation.	

The area of jaddi is large and was assessed in this circle as cultivated land. Government raised the grazing rate to 1½ annas. The demand, assessed, was Rs. 46,160, rate 15½ annas on cultivation and about Rs. 1-8 on average area of crops harvested.

Though the revenue of the whole circle was little altered, the internal distribution was much changed. In the Ghaggar estates large reductions were granted, but these were more than counterbalanced by the increase taken in the Sarnati villages.

212. The Northern part of the Pohow Nalli is flooded by the Umla, and the Southern by the Sarnati. There are five Bangar estates resembling the villages in the Anderwar circle, which they adjoin. The Circle has an area of 125 square miles, of which 37 are cultivated. Cultivation and jaddi showed an increase of 18 per cent., while ploughs of 16 per cent., while population had declined by 6 per cent. Data predominant in the Umla Nalli. Within the last ten years the floods of the united Markanda and Sarnati in the South of the Nalli have increased in volume, and it is in this part of the circle that the spread of cultivation has mostly occurred. The 53 estates may conveniently be divided into three groups, some of the leading statistics of which are shown below:—

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Assessment of the
Kotwal Sarai Circle

Assessment of the
Pohow Nalli.

Chapter V. B.

Land and Land Revenue.

Assessment of the Pehowa Nauli.

Detail.	Chauth and patti.			Population contributing Patta.		Rate of cultivation	Rate of cultivation	Rate of cultivation	Rate of cultivation
	Chauth	Patti	Chauth and patti	Chauth	Patta				
1 Bhanga Sardai ..	Acre.	Acre.	Acre.	1,907	1,907	Rs. 1-0	Rs. 1-0	Rs. 1-0	Rs. 1-0
24 Umsa ..	(1,298)	1,298	2,496	5,931	5,931	12	10	10	10
25 Baroti ..	1,121	1,121	2,242	6,393	6,393	12	10	10	10
Total ..	16,679	16,679	33,358	17,337	17,337	12	10	10	10

There are wide differences between the Umsa and the Sarosti villages. The former have decidedly a better agricultural population and have more well irrigation. In other respects they are inferior. Nearly the whole of their flooded land consists of dahr, in which coarse rice is the principal, and often the only, crop. The grazing is miserably poor.

In the Sarosti villages the autumn harvest is comparatively unimportant. Much land lies under water in the rains, and, as soon as it is dry enough, is hastily ploughed and sown with gram or mixtures of wheat or barley with gram. Nothing could be rougher than a great deal of the cultivation. But in Pehowa and a few of the neighbouring villages the stiff soil is being improved by deposits of silt. The Sarosti floods in Pehowa scarcely ever fail and the spring harvest is fairly secure, but the Umsa floods are most uncertain.

The demand was Rs. 21,221 falling at Re. 0-14-0 on cultivation. The half acre estimate was Rs. 14,299. The rates proposed by the Settlement Officer and sanctioned by Government and the resulting demand were:—

Detail.	Acre.	Rate.	Demand.
		Rs. A. P.	Rs.
Chahi	1,907	0 0 0	1,911
Other cultivated land ..	21,679	0 12 0	16,293
Grazing	33,101	0 0 6	1,986
Total	61,687	0 14 4	21,090

The revenue given out was Rs. 21,090 falling at 14½ annas on cultivation and at Re. 1-7 on the average area of crops harvested in 4 years.

313. The Pehowa Bangar covers an area of $79\frac{1}{4}$ square miles, of which 31 are cultivated.

Cultivation and jadid had risen by 46 per cent. since the settlement of 1858. Jats and Rors own one-half of the total, and till two-thirds of the cultivated area. They are generally in good circumstances. The other tribes of any importance are Gujars and Rajputs, who depend a good deal on cattle rearing and are usually very careless cultivators. Tenants are not numerous and true rents are a novelty. The Government's share of the produce was 11 per cent., and the half assets estimate Rs. 12,510. A good deal of the new tillage is of a very uncertain character, the land being roughly ploughed in a favourable season, and left alone in a poor one.

The average area on which the crops were harvested in the 4 years 1883-84 to 1886-87 was 37 per cent. below the cultivated area of the circle. The detail is 43, 29, 70, and 35.

Owing to the increase of cultivation, the demand had become light and the circle had prospered, although the proprietors had been made to pay in good and bad years alike. The revenue was Rs. 11,413, above one-half of which was contributed by four large estates, two belonging to Rors and two to Jats. The rate on cultivation was 9½ annas per acre.

The sanctioned rates and the resulting demand were:—

Detail.	Area.	Rate.			Demand.
		Acres.	Rs.	A. P.	
Well irrigated	2,060	2	0	0	4,120
Dry	17,031	6	8	6	9,393
Grazing	26,967	0	0	6	842
Total	45,058	0	11	8	14,355

The revenue actually announced was Rs. 14,230, rate Rs. 0-11-7 on cultivation and about Rs. 1-2 on the average area of crops harvested.

314. Some of the Chacirs estates transferred the close of the settlement to Kaithal were in a very broken condition. Between 1858 and 1881 the population of the eight villages had fallen off by 23 per cent., and between the two settlements many wells had fallen out of use. The crops are extremely precarious. The demand was lowered from Rs. 1,835 to Rs. 1,490.

Chapter V. B.

Land and Land Revenue.

(General result of re-assessment of land in Kairali.)

Optional fluctuating assessment in case of many Nailli estates.

315. The general result of the reassessment of taluk Kairali was to raise the demand from Rs. 2,03,457 to Rs. 2,48,575 or by Rs. 45,118. In addition an owner's rate which, calculated on the average receipts from occupier's rate for 5 years, amounted to Rs. 13,278 was imposed for the first time. The new demand came into force in the Pehowa villages in Kharif 1887 and in the villages of the old Kairali taluk in Kharif 1888. The term of the settlement has not yet been finally determined, but it will not exceed 20 years.

316. One peculiar feature of the assessment must be noticed. During settlement operations a number of estates in the Kairali, and one village in the Pehowa, Nailli, besides two Chachra estates were put under a fluctuating system of assessment owing to the extreme precariousness of the crops and the distressed condition of the landowners. There was much to be said in favour of perpetuating and extending such a system. But in view of the objections of the people and the difficulty of securing proper supervision, it was decided not to refuse a fixed assessment to any estate, leaving it, but to give most Nailli and all the Southern Chachra villages the option of accepting at once or at any time during the currency of the settlement an assessment fluctuating with the area of crops harvested. Full details will be found in the settlement report. As was anticipated all estates elected for a fixed demand, but some of them may be glad to exchange this for a fluctuating assessment in the future, and they should be given every opportunity of doing so.

Sikh Revenue system in Indri.

317. Indri was not like Kairali the appanage of a single State, but was divided between Ludwa, Thanesar, Radaur, Kairali, and a number of petty chiefs. Here as rule the Sikhs took a share of the total produce, $\frac{1}{4}$, $\frac{1}{3}$, or $\frac{5}{9}$, by appraisement for most crops, for others, such as poppies, tobacco, cane, cotton, and chiri, cash bigha rates were charged. Deductions from the total produce were first allowed for the dues of the village menials. Even where the rate was moderate, the demand might be excessive, owing to a dishonest estimate of the culture. This was the case in the Khairi villages of the Thanesar State. The rate there was only one-fourth, but the appraisement was very severe. In addition, numerous cesses were levied. Captain Abbott gives a formidable list of these, but it is too long to quote. He estimated the total to amount to a charge of 16½ per cent. on the revenue demand.

Captain Larkins calculated that, in Thanesar, where one-fourth was the share of produce taken by the State, little more than half the output remained in the hands of the proprietors, after all the cesses had been paid. But this appears to be an exaggeration, as his own figures show that the State only realized from 20 to 30 per cent., in addition to the receipts from appraisement and cash rates. What may have stuck to the finger of the servants of the State is another matter.

Every Sikh took as much as he could, but the smaller men could not impress the people so effectively as the more powerful chiefs. The Indra Raja was strong enough to exact a tax per manud, or 10 per cent, in addition to the share by appraisement, on the ground that he must be insured against loss from errors in weighment, washing, &c. The leading men in each village were given an allowance of 3, 5, or 10 per cent. in the revenue collections; the highest rate being given to the strongest villages. And influential landholders were often allowed to hold a well rent-free, or given the receipt by appraisement of 5 or 6 bigahs of land. Time has softened the recollection of the worst evils of the Sikh system, and with all its irregular exactions, it apparently pressed less heavily on the people than our early cash assessments, exacted rigidly without regard to the fluctuations of the seasons. The leading zamindars were treated with a greater show of liberality than under our rule. They were fed at the chief's expense when they went to his head-quarters, and presents were often given on the occurrence of marriages in their families. Hence the lumberdars sometimes speak in a tone of regret of the old system, but any attempt to revert to grain collections or appraisement would be resisted to the death.

The Sikhs dealt as they pleased with the village waste. Grass and game preserves were formed, and new villages were created in lands carved out of the waste of the older estates. More than one-fourth of the villages of the pargana were founded in this way during Sikh times. There was one check on the recklessness of the conquerors. If the villagers were pressed too far, they abandoned their lands, and the revenue disappeared with them.

318. Estates which lapsed to us were summarily assessed. The principal events which occurred before the first regular settlement and which affected villages included in Indri, are shown below:—

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Sikh Revenue system in Indri

Name of State.	Date of lapse.	Number of villages included in present Indri pargan.
Bidar	1828	6
Damwar, (Rang Singh's two-fifths share)	1822	37
Ratnai	1843	104
Indri	1840	20
Damwar, (Dhangha Singh's three-fifths share),	1850	274

January Settle-
ments.

Chapter V. B.
**Land and Land
 Revenue.**

*Revenue Settle-
 ments.*

All the villages of the pargana with the exception of the seven* estates transferred from Muzaffarnagar, were brought under regular settlement by Mr. Wynyard or Captain Larkins between 1849 and 1856.

Many of these estates had been previously settled in a summary way by various officers. The principal summary settlements were made by Captain Murray, Captain Abbott, and Captain Larkins. The first mentioned Officer settled Bhung Singh's two-fifths share in the Thanesar estate, which lapsed to Government on the death of Bhung Singh's grandson, Jamist Singh, in 1822. Captain Murray's settlement report cannot be traced, but the system he followed elsewhere, and which he doubtless adopted here also, was to fix the revenue "by deducting pachotra, an allowance of about five per cent. from the average collections of preceding years." That is to say, the basis of the assessment was the assumed value of the grain realized by the Sikh Government. Such a settlement could not fail to be oppressively high.

The villages of the Ludwa State, which lapsed in 1849, were summarily settled by Captain Abbott. For most of the villages, Captain Abbott had returns of the Sikh collections for the previous five years. He struck off the cesses which he calculated to amount to 10½ per cent. on the receipts by appraisement of crops and tubhi rates, and took a cash assessment nearly equal to the balance. As the tubhi rate was one-third in some villages, and one-fourth in others, which are the existing rent rates, Captain Abbott's assessment took for Government the whole of what we should now call the owner's assets. Landholders received an allowance of 5 per cent. deducted from the revenue.

Bhangi Singh's three-fifths share in the Thanesar estate lapsed in 1850, and was summarily settled by Captain Larkins. He arrived at his demand by the same process as had been followed by Captain Abbott in assessing Ludwa, but Mr. Wynyard, who condemned most of the summary settlements for their extreme severity, made an exception in favour of Captain Larkins' work.

*The regular settle-
 ment 1849—1856.*

319. Mr. Wynyard's regular settlement of the Thanesar District was begun in 1848, and was not finished when he left the District in 1852. The work was made over to Captain Larkins for completion, but it was soon found that the assessments already given out by Mr. Wynyard must be revised. Captain Larkins reported the result of his operations to the Commissioner in 1856. Mr. Wynyard's assessment circles and rates were very numerous. He states that the end of all his

* An eighth estate has been transferred to Etawah by river action since the completion of the regular settlement.

inquiries was "to ascertain as nearly as possible the true rental, to leave one-third of that for the zamindar's profits, and to fix the remaining two-thirds as the Government jama."

The amount payable to chaukidars was deducted from the demand by two-third's assets rates, in order to fix the realizable jama; but in many cases very considerable additions were made for waste.

It is quite clear that Mr. Wynyard intended to make a lenient assessment. He wrote himself:—

"I have always borne in mind that a settlement, to be paid with ease, must be a light one, and I have never forgotten the constant injunctions that the assessment should be moderate. My remissions from the old jama are heavy."

He inveighed strongly and indeed almost violently against the incredible severity of some of the summary settlements, and the rigorous justice in which an exorbitant demand went winging from the people by the officers who had charge of the Ambala District. Nevertheless, his own settlement became a by-word in the province for over-assessment, and had to be revised by four different officers within the first 10 years of its currency. It is necessary to explain the reasons why Mr. Wynyard's good intentions bore such unfortunate fruits.

(22). The chief causes of the failure of the settlement appear to have been four, for three of which the settlement officer was responsible, while the fourth arose from circumstances over which he had no control, and which he could hardly have foreseen. Those were:—

- (1) An over-measurement of well irrigated land.
- (2) An exorbitant assessment of the waste.
- (3) The severity of the rates imposed on the previous dry cultivation.
- (4) The great fall of prices which began about 1851, and lasted till the famine of 1860-61.

Over measurement of well lands, though it occurred in some villages, was not a general cause of error in the part of the Thanesur District included in the present Indri pargana. When the waste area was large heavy progressive assessments were imposed in the hope of forcing the landholders to rapidly extend cultivation, which they had not the means or the inclination to do. Mr. Wynyard's chahi rates were not in themselves exorbitant, though they were applied to too large an area, but his bawali ratios were very severe, considering the poorness of the soil in the Khadir, and the extreme uncertainty of the crops in the uplands.

Chapter V, B,
Land and Land
Revenue.

The regular set-
tlement 1840-1850.

Reasons for the
break down.

Chapter V. D.
**Land and Land-
 Revenue.**

In the annexed table, Mr. Wynyard's assumed prices for the principal grains are compared with the average prices received by zamindars for the six years, 1854 to 1859:—

Reasons for the
 break-down.

	Wheat	Basley	Gram	Barley	Rice	Sorghum	Jowar	Bajra	Average
Mr. Wynyard's assumed prices	47	48	40	43	28	42	42	42	43
Average prices received by zamindars between 1854-1859 ...	51	67 ¹	62 ¹	53 ¹	35	34	34	30	52 ¹

Many of the villages had never been summarily settled, and the transition from grain to cash payments came at a particularly unlucky time. Nothing but a very light assessment could have stood such a strain, and Mr. Wynyard's demand was heavy.

Revisions of the regular settlement.

321. From 1859 to 1862 the pargana may be said to have been always under settlement. Mr. Wynyard's work was reviewed by four officers in succession, with the result that, a dozen years after settlement, there was scarcely an estate left which was paying the revenue originally fixed. The result of the various revisions is shown below, the revenues of the villages which were settled for the first time by Captain Larkins being entered separately to facilitate comparison:—

First regular settlement by whose hands.	No. of villages	DEMAND OF FIRST REGULAR SETTLEMENT WITH RATES OF CULTIVATION.		DEMAND OF REVISED SETTLEMENT.		
		Initial.	Full.	Larkins.	Dusk.	Elphinstone and Devlin.
Wynyard ...	163	Rs. 1,45,700	Rs. 2,65,100	Rs. 1,44,903	Rs. ...	Rs. ...
Larkins ...	15	Rs. 673	Rs. 120	Rs. 519	Rs. ...	Rs. ...
Total ...	178	Rs. 1,52,374	Rs. 2,65,220	Rs. 1,45,122	Rs. 69,069	Rs. 1,69,113
Data on cultivation.	... ¹	1.9.0	1.10.5	1.9.0	1.7.0	1.8.1

The demand before the recent revision was somewhat larger than that shown above as resulting from Captain Darby's revision because the area of patty and free grants was assessed after settlement and because some villages have been transferred by river action from Nausheharagar to Karnal. Generally speaking, Captain Larkins confined himself to striking off the heavy progressive assessments imposed on account of waste, and as these were severest in the Narlak Circle, his largest reductions were given there. He also reduced the demand when a comparison of the irrigated areas recorded with the number of wells caused to show that there had been an over-measurement of well lands, but he failed to realize that the dry rates were much too high.

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Revenue.Reduction of the
regular settlement.

His total demand was less than Mr. Wynyard's by 5 per cent.

Captain Larkins' report was written in February 1856, but his returns were inaccurate, and his successor, Captain Buck was ordered to revise them, and also to give further reductions where required. He reported the result in March 1857—(No. 83 A, dated 25th March 1857), but he appears to have given further relief in 1859. He lowered Captain Larkins' demand by 3 per cent.

Captain Buck saw clearly that Mr. Wynyard's rates were too high, and he put the assessments in many circles considerably below that brought out by their application to the cultivated area.

Two revisions had left the demand 13 per cent. lower than that fixed by Mr. Wynyard. But distress in Thanesar appeared to be chronic, and notwithstanding the large measures of relief given, the revenue continued to be realized with the greatest difficulty, coercive measures were constantly adopted, and farms and transfers of revenue paying land and even of whole villages were frequent.

The work of revision was again undertaken. This time it was entrusted to Captain Elphinstone, who carried it out in the spring of 1860. The Commissioner doubted the sufficiency of the relief granted; but before further action was taken the famine of 1860-61 occurred. After the famine, a fresh revision was ordered. It was carried out by Captain (now Colonel) W. G. Davies, in the cold weather of 1861-62, and his proposals were sanctioned by Government two years later, (Secretary to Government, Punjab, to Financial Commissioner No. 416, dated 23rd April 1864).

Very large balances had accrued in the famine year, and most of these were, on Captain Davies' advice, remitted.

The result of four revisions was the reduction of the original demand by Rs. 31,546, or 16½ per cent.

Thanks to the rise of prices coincident with the last revisions, the reduced revenue was paid, though the tract as a whole did not prosper.

1862. The revenue history of the pargana from 1862 down to the recent revision of settlement may be briefly discussed. In 1862 on the transfer of Lydri to Karnal the difficulties of the Jat

Revenue history
from 1862 to 1894

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*Revenue history
 from 1877 to 1886.*

villages in the north of the Khadir and Bangar were aggravated by the ill-considered prohibition of poppy cultivation. Down to the famine of 1877-78 the usual policy was adopted of collecting the revenue in full in good and bad years alike. Even in the famine of 1882-83 the suspensions appear to have amounted only to about Rs. 1,000. Since 1877-78 a more rational system has prevailed. In the famine of 1877-78 large advances were made for the purchase of seed grain and bullocks, and suspensions were given in many of the villages of the two upland circles. In khairi 1877-78 Rs. 4,925 were suspended in the Bangar and Rs. 7,125 in the Nardak. In the next two harvests further suspensions, amounting to Rs. 8,780, were sanctioned in the Nardak. Between the famine of 1877-78 and the khairi of 1883, almost all the latents failed more or less in the drier parts of the tract. Suspensions were given in the spring harvests of 1881, 1882, 1883, and 1884, and in the khairi of 1883. In the three harvests, rabi 1883, khairi 1883, and rabi 1884, above Rs. 25,000 were suspended in the three assessment circles. No demand which is just in one to Government and the people can ever be collected in this tract without frequent suspensions and the suspended revenue should be steadily realized whenever a good season comes round. The realization of this fact is the key to any successful revenue administration of the Kurnool district, and this view has been emphatically endorsed by the Punjab Government (Rev. Com. M., para. 12).

*This period not
 covered by the
 Report of 1886.*

323. Mr. Dogra divided the *jargata* into three assessment circles, Khadir, Bangar, and Nardak. He had only two rates on cultivation, irrigated and unirrigated. The small area watered from tanks and the rich rainfall areas were treated as irrigated. Warned by Mr. Wrenyard's mistake and by the result of his local observations he rejected the recorded *khasi* area for purposes of assessment, and with regard to the results of the crop returns of 3 years took the assessable area per well wheel or bucket in the Khadir and Nardak as ten, and in the Bangar as 18, acres. The *khasi* area of each circle was obtained by multiplying the number of wheels or buckets which it contained by the assessed area watered per wheel or bucket. The unirrigated rates were applied to the land watered by wells, and the difference between them and the *keti* rate was treated as a water advantage rate and distributed over the wells according to the irrigating capacity of each as shown by the crop returns of each year. The difference between the work done by the wells even in adjoining estates and of different wells in the same estate is so great, and the recorded well areas are so untrustworthy in this particular that in order to fix the water advantage rate fairly the average irrigation of each well in every estate was calculated, and a lump sum fixed for it with reference to its apparent irrigating capacity. Of course when the revenue was distributed over holdings the landowners were allowed to modify the distribution of the total village share over the wells. There was another reason for imposing the water advantage rate on each well as a lump

own. There is a good deal of irrigation in Indri by men, who, according to the settlement papers, have no share in the wells they use. Sometimes water is admittedly taken only by permission of the owners, but in many cases the irrigators claim a right to a regular turn of irrigation; and assert that they have always enjoyed this. The rights of such men were recorded as well-irrigated; but, if they had been assessed at wet rates and water had subsequently been refused, a grave injustice would have been done. On the other hand, when the irrigated part of the assessment took the form of a water-disadvantage rate imposed in a lump sum on the well, the recorded owners of the well had to suffer, when the demand was distributed over holdings, whether they would pay it all themselves, or divide it between themselves and the other irrigators. When they adopted the latter course, they will be unable to refuse the non-owners water during the term of settlement.

In view of the diminution in the number of wells in the Bangar and Nardak since the regular settlement, Mr. Deme suggested that, when a well fell permanently out of use, the owner should be remitted, and this proposal has been tentatively approved by Government. Final orders on the subject will be passed when the settlement report is submitted.

324. The Settlement Officer described the chief considerations which determined the amount of his assessments as follows:—

"The main question therefore is—Has the tract prospered under (the existing) assessment or not? The reductions given at three revisions of assessment, and the fact that a permanent rise of prices was coincident with the last revision, have prevented its ruin, but they cannot be said to have weaned for it any abounding measure of prosperity, and I think further relief is required."

Population has declined, and there is some deficiency of agricultural stock. A good many wells have fallen out of use in the Bangar and Nardak, and little has been done to supply their places. In the Khadir, on the other hand, irrigation has increased, and could increase still more, as wells cost little, and expensive bullocks are not required. * * * * The value of land is small. Rents have remained stationary since last settlement, and they are very low. The soil is good in the upland circles, but the seasons are very capricious and the summer most precarious. In the Khadir, the land is poor, and the most productive part of it, the canal-shab, has lately been reduced by three-fifths. A number of estates both in the Khadir and Bangar have been injured by the prohibition of opium cultivation.

Against these considerations we have to put an increase in the cultivated area of 3½ per cent. in the Khadir, 12 per cent. in the Bangar, and nearly 31 per cent.* in the Nardak. This rise in the

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*The revised assi-
gements of 1862.*

*General considera-
tions determining
the amount of the
revised assessment.*

* The comparison should have been between the cultivated area and the area of the two settlements. Apparently a good deal of the land recorded as sown at the last settlement would have been treated at the revised settlement as uncultivated, though part of the large jadid area of 1862 was probably really sown. In the Khadir the area of cultivation and jadid land failed off by 2 per cent., in the Bangar it had risen by 2, and in the Nardak by 3 per cent.

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General considerations respecting the amount of the revised assessment.

Bangar and Nardak has been in the pretentious dry cultivation, and in the latter circle our recorded cultivated area is, for reasons already explained, far above the average annual cultivation.

"The existing demand in the Indri Khadir is much heavier than that assessed by Mr. Dibetson on the adjoining Karsal Khadir. Mr. Dibetson's rates applied to my area would give a revenue of Rs. 75,785, while Rs. 29,467 are at present paid. His Nardak rates, applied to my excessive Nardak area, being out a demand always Rs. 800 below that now taken. His dry Bangar rate is much higher than I would venture to propose. But the circumstances of the two circles are very different, as Mr. Dibetson recognized by suggesting a dry rate of 14 annas in Indri as compared with 17 annas in Karsal."

Assessment of the
 Khadir.

325. A resume of the assessment of each circle is given below:—

The Khadir covers an area of 161 square miles, of which 96 are cultivated. One-sixth of the cultivated area is protected by wells, the number of which had increased by 4 per cent., since 1856. Cultivation and jadid had fallen off by 1 per cent., and population had declined. The soil is inferior. The canal mullah is the most fertile part of it but the remodelling of the Western Jammu Canal has reduced the area from 2,537 to 973 acres. For the same reason the small amount of canal irrigation has ceased entirely.

Thirty-seven per cent. of the area is owned by industrious Jats, Bors, Kambolis, and Malis; 31 per cent. by Rajputs, and 13 per cent. by Pathans, the chief Pathan proprietor being the Nawab of Kunjpura, who owns a great deal of land in his jagir villages. A little more than half the cultivation is in the hands of Jats, Bors, Kambolis, and Malis. The number of occupancy tenants had fallen off greatly since 1856.

Six per cent. of the total area has been sold since last settlement, more than half being to money-lenders or men of capital like the late Nawabs of Kunjpura. The average price per acre is below Rs. 20. Four per cent. of the land is mortgaged, and the mortgage debt amounts to more than the annual revenue demand.

The harvests are not really secure. In the severe drought of 1856-57 about a fourth of the area sown failed to yield a crop, and much damage is often done in the kharif by floods. The grain and cash rents are low. Owners generally get one-third of the produce. The demand was Rs. 89,319, ratio 1-7-3. The half assets estimate amounted to Rs. 78,062. The settlement officer's proposed rates were:—

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Assessment of the Khadir.

Detail.	Area in acres.	Rate.	Demand.
		Rs. A. P.	Rs.
Irrigated ...	12,448	2 4 0	25,696
Unirrigated ...	48,075	1 1 6	53,493
Total ...	60,523	1 5 3	81,189

Government sanctioned the rates proposed in this and the other circles. The revenue actually announced was Rs. 82,664, rate 1-5-7. The greater part of the decrease was in jagir estates, which had not been given the full benefit of previous revisions.

326. The area of the Bangar is 115 square miles, of which 64 are cultivated. Cultivation and jadid had increased by 2 per cent., while the number of wells had fallen off, and the population had declined. Two-thirds of the valuable canal sealkh has disappeared with the closing of the old line of the Western Jamuna Canal, but as a set-off against this, there is a considerable increase of canal irrigation. About 30 per cent. of the cultivated area is protected by wells. The Bangar has a much better soil than the Khadir, but the dry crops are more precarious. In the drought of 1883-84 only half of the recorded cultivated area yielded a crop, though the wells were strained to the utmost. More than half of the area is owned by Jats, Rors, Kambolis, and Malis, and about one-fourth by Rajputs.

Assessment of the Bangar.

134 per cent. of the total area has been sold since the regular settlement, 40 per cent. of the sales being to money-lenders. The average price per acre is only Rs. 10. Mortgagors with possession hold 5½ per cent. of the total area, and the total mortgage debt is about 1½ times the annual revenue demand of the circle.

The cash, rabti, and grain rents are all low. Where the tenant pays a share of the crop, he usually gives one-fourth, but one-third is often charged in the north of the circle. The half assits estimate amounted to Rs. 45,194. The revenue was Rs. 50,446, rate 1-3-8. Mr. Douin proposed to leave this practically unchanged. His rates were:—

Detail.	Area in acres.	Rate.	Demand.
		Rs. A. P.	Rs.
Irrigated ...	10,642	2 4 0	23,943
Unirrigated ...	30,382	0 14 0	26,584
Total ...	41,024	1 3 8	50,529

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Assessment of the Nandak.

An owner's rate calculated at half occupier's rate was introduced in four canal irrigated estates. The demand actually imposed was Rs. 50,600, to which Rs. 900 may be added as probable receipts from owner's rate.

827. The Nandak covers an area of 134 square miles, of which 46 are cultivated. Cultivation and jadid had increased by 5 per cent. since 1856, but there was a marked falling off in the number of wells. Only 9 per cent. of the cultivation is protected by wells.

If the census was accurately made in 1855 the population increased by 17 per cent. in the 13 years which elapsed between the first and second enumeration. There was a decrease of 5 per cent. between 1863 and 1881. The soil is stiffer than that of the Bangar. The rain-fall is heavier, and the cultivation still more precarious. Little more than one-fourth of the recorded cultivated area bore a crop in 1883-84.

Thirty-five per cent. of the area is owned by Raiputs, 11 per cent. by Jats, and 32 per cent. by Rors. The Raiputs and Jats are in difficulties, the Rors are extremely indolent and in fair circumstances.

Since settlement, 81 per cent. of the total area has been sold, and above half of the sales have been to money-lenders. The average price is only about Rs. 8 per acre. The amount of mortgage debt is small as compared with the other circles, the chief reason probably being that the land is less valuable as a security.

The produce is frightfully precarious, almost nothing in bad years, and very large when the rainfall is abundant and reasonable. Jowar, coarse rice, and gram are the great staples.

Zitti and grain rents are low, and cash rents are very rare. When division of crop is the rule, one-fourth is almost always taken. The half-assets estimate based on the average of the crop returns for three years was Rs. 16,981.

The demand of the year 1881-82 was Rs. 24,743, and Rs. 0.12-4. Mr. Donie proposed a revenue of Rs. 24,052, if the whole circle was put under fixed assessment. The details were—

Detail.	Area in Acres.	Rate.		Demand.
		Rs.	M. A. P.	
Irrigated	3,129	2 0 0		6,258
Unirrigated	26,594	0 10 0		16,621
Grazing	57,542	0 0 6		1,308
Total	87,265	0 12 11		24,085

The revenue finally fixed was Rs. 23,529, rate Re. 0.125, but of this Rs. 10,900 represent the alternative land demand in estates put under the system of assessment described below:—

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Narlik.

Mr. Douie proposed that 22 Rajput and Jat estates in the west and south of the circle, where the irrigated area is small, the cultivation peculiarly precarious, and the owners half off should be put compulsorily under a mixed fluctuating and fixed system of assessment. Most of the other Narlik estates were to have the offer of a fluctuating assessment. If they declined it, as the settlement officer anticipated they would, they were further to be allowed during the currency of the new settlement, to throw up their leases and come under the fluctuating system. The Deputy Commissioner was to have authority, with the sanction of the Commissioner, to cancel the settlement of any estate, of which more than one year's demand was in arrears, and to collect the revenue at fluctuating rates. The power of cancellation would only be exercised when there was no prospect of realising the arrears within a reasonable time.

The system finally sanctioned was as follows:—A fixed assessment amounting to Rs. 2247, was imposed on the recorded canal area and on the pasture land. On the barren and small areas the revenue is assessed harvest by harvest at the rate of one rupee per acre on all crops successfully cultivated. The success of the experiment depends entirely on the pastoral work being closely and honestly supervised. So far Government has no reason to regret the adoption of this plan, as the following table proves:—

Year	RENTS AND REVENUE ACCORDING TO RATES.			Area of irrigated and pasture land in acres.	REVENUE.		
	Fixed.	Fluctuating Rate.	Total.		Rate.	Amount.	
					Rs.	Rs.	
1846-47	—	—	Rs. 2,247	Rs. 0,800	Rs. 0,917	Rs. 10,903	
1847-48	—	—	2,247	14,500	15,510	10,904	
1848-49	—	—	2,247	15,501	16,129	10,902	
1849-50	—	—	2,247	9,250	11,467	10,903	
Average	—	—	2,247	11,642	12,837	10,903	
					2.081	—	

325. The revenue of the Indri parganas as a whole was lowered from Rs. 1,64,508 to Rs. 1,55,863, or including owner's rate Rs. 1,57,753. The decrease was in assigned revenue.

General result of
Assessment of Pargana

326. The effect of the Karnal-Ambala Settlement on the former district was to raise its revenue by Rs. 35,663, to which must be added Rs. 14,000 on account of owner's rate. Roughly, therefore, an enhancement of half a lakh was taken, but it is not unlikely that with the imposition of owner's rate the canal irrigation may fall off somewhat, and that calculations based on the average & occupiers' rates for five years before settlement may not be fully realistic (see para 340).

Effect of Karnal-
Ambala Settlement
on revenue of Karnal
district.

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Early 1817—1818
Revenue Adminis-
tration.

PART II—THE PANIPAT DISTRICT.

Early Revenue History.

390. The state of the country when it first fell into our hands, has already been described in Chapter II. As soon as the establishment of British rule guaranteed the preservation of general order, the tract settled down as it by magic; the people who had taken shelter in the larger villages returned to their fields and hamlets; and those who had left the district altogether gradually came back again. But the habits which nearly a century of anarchy and confusion had engendered were not at once to be eradicated; and the oppressive manner in which we at first conducted our revenue administration greatly delayed the process. For the first few years revenue matters were practically in the hands of the people to whom we had assigned the various parts of the tract. But in 1817 we began to assess summarily the annual revenue to be paid by each village, not only in estates which had lapsed by the death of the assignees, but also, at the request of existing assignees, in many estates still held by them; and by 1821 this process was tolerably complete for the non-Mandal portion of the tract settled by Mr. Robertson.

The summary assessments were, throughout, incredibly oppressive. The assessment was based on the principle that Government was entitled by "the custom of the *pargana*" to half the gross produce of the cultivation; and a set of cash rates on the various crops which had sprung into existence under the Sikhs, and which had apparently been applied to a larger bigha than that used by us, were levied on areas taken from the *bawali*'s records (afterwards found to offer no sort of approximation to the real acre), or roughly measured at the expense of the village. The rates, as applied, were Rs. 10 per acre for sugar-cane; Rs. 9-3 for wheat, cotton, and rice; Rs. 6-14 for barley; and Rs. 3-7 for other crops. These rates, however, were only used in well-developed estates. Where pasture bore a large proportion to cultivation, a rate of Rs. 3 per acre was imposed on the whole culturable area, "so as to induce the people to extend their cultivation." Besides this, a new tax on cattle was introduced at the rate of Rs. 2 per buffalo and Rs. 1 per head of other cattle, the incidence of which was estimated at approx. 10-6 per cultivated acre. The general incidence of the demands thus fixed averaged Rs. 5 to Rs. 5-5 per acre cultivated in 1823, when the first accurate survey was made. Mr. George Campbell reported that in many cases it would require the *total* gross produce of the land and cattle to defray the Government demand. And in fact the assessments were purely nominal, as they were never collected—"in some instances not half of them—even in the first year of settlement." What could be got from the people was taken, and the remainder accumulated as balances. These were constantly added to the

demand, so that year by year it increased in arithmetical progression; and if a road ~~were~~ ^{had been} rendered possible a surplus over the actual demand of the year, it was at once setded on account of the balances of less favourable seasons.

As early as 1822, before the settlement was even completed, there were balances of a lakh-and-a-half in *tahsil* Panipat alone; and the Board pointed out that "the inhabitants of some villages, nearly in tens, had abandoned their lands and homes and migrated to distant parts." In 1823 the Commissioner wrote:—

"At a very early period after the conclusion of last settlement, the error in the assessments was discovered; large balances occurred annually, till eventually the whole of Panipat Khadir were taken under direct management, and the impoverished people, without the means to pay half or even a third of their original assessment, were once more content to remain on their soil."

In 1836, four-and-a-half lakhs of balances, dating from as far back as 1814, were still outstanding. The system of settlement was no less oppressive than that of assessment. Large portions of villages were made over to neighbouring communities to hold and cultivate; and some of them so held and cultivated them to this day. The village headmen, who were indiscriminately numerous, were spoken of and treated as the proprietors; the other members of the community as "royals." The settlement was made with the headmen alone, and no record existed of rights, which had become a burden rather than a source of profit. There were no village accounts, and the collection of the revenue from individual cultivators was entirely uncheked so long as the amount was forthcoming. When a settlement was made, the headmen were imprisoned till they agreed to the terms offered (in one case for ten, in another for seven months); and, having accepted them, till they furnished security for payment. One village refused to agree to the assessment, no farmer could be found, and the Commissioner directed the Assistant to "confine the people and their cattle to their houses and the immediate site of the village, and sequester all land, orchards, &c., and enough of cattle and goods to cover the balance." Farmers were only too common, because no farmers were forthcoming, and village after village was held in direct management. In 1824 the Assistant writes:—

"With whatever means a farmer may have commenced his agricultural career, he has generally contrived to visit the jail four or five times, and to attain an inevitable state of ruin in the course of three or four years."

The mode of collection was as vexatious and extortive as the assessment was oppressive. The collections were made in February and September, long before the harvest; and the cultivator was thus "forced to part with his grain at a ruinous sacrifice." Guards were appointed to watch the crops in the

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interest of Government, but at the cost of the owner; and, directly the revenue was overdue, horse and foot were quartered in the village at its own expense. One hundred and thirty-six headmen were retained for the collection of the revenue, while 22 sufficed for the police duties of the same tract. The Board of Revenue writes :—

"A pernicious practice prevails of overhauling the villages with teams of hired servants furnished with orders of demand for the instalment of the land revenue, without any regard to the means of the people, the state of the crops, the powers of the village, or the number of hired servants employed. In this way native officers provide for hungry dependants; and men of every bad description, idle, lazy loafers, are scattered over the land, and find employment in forbearing to realize the minces they are sent to collect."

In 1822 the fees of these grantees were reported by the Collector to have amounted to more than a lakh of rupees, of which the revenue learnt admitted having received Rs. 600 per annum. In 1836, after two consecutive years of famine, a small village had all its crops seized, all its headmen thrown into prison, and one hundred and twenty head of cattle sold for arrears of an assessment, which had never been realized from it in any one year, which was two-and-three quarter times its present assessment, and of which Mr. George Campbell had declared in 1824 that it would absorb nearly the whole gross produce of the village lands and cattle. In 1823, after a year of great distress, the headmen of 33 out of a tract of 200 villages were in prison for arrears, some for so long as 171 days, and in 1824 the jail force was increased on account of the number of revenue defaulters in custody. In 1826 the Collector reported as follows :—

"The tahsildar has urged the people to the extremity of their means, and they are consequently exhausted by a continuance of extraordinary struggles, grievously impoverished, and tremblingly apprehensive of a repetition of the grinding system. In many instances, and often in the largest villages, the whole village has fled in a body; for, after the usual process of imprisonment and sale of property, desertion remained the common ultimatum."

As the Collector reported "everything was done by the personal exertions of the tahsildar." Yet in the tahsildar's honesty would have been miraculous. In 1822 the tahsildars were paid only Rs. 20 a month. In 1836 one tahsildar was officially stated to have been "the principal cause of the ruin of many villages in Pampat Khudie." Till 1836 one tahsildar collecting 2½ lakhs annually, enjoyed a monthly salary of Rs. 50; another collected Rs. 60,000 on a pay of Rs. 90; a third, Rs. 1,37,000 on a salary of Rs. 20; none received more than Rs. 100. Between 1821 and 1835 five tahsildars were suspended for fraud, within four months of 1835, three were criminally convicted and dismissed, and a fourth committed to the Court of Circuit. A common practice was for the headmen to apply for a suspension of demand, and for the tahsildar to support the application.

Sanction being obtained, the full amount was collected from the village, and the *Inhabitants* and the *landholders* divided the Land and Land differences. When the Collector visited the village and found that its condition did not justify a remission, he ordered the amount suspended to be realized, and the wretched proprietors had to pay twice over.

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Under such circumstances the villagers became migrants on the face of the earth. If neither of two villages could pay its revenue, the combined capacities of both might meet the demand on one of them. The revenue reports are full of such remarks as this:—"This village is entirely abandoned; half the villagers have run away; only five families left in this village." The protected Sikh States approached to within a mile of Karnal, and encircled the district on the north and west; *petty fairs* lay thick among the Government villages; both offered a hearty welcome, land in plenty to cultivate, and lighter terms than our own to people driven from their homes by the harshness of our rule. Desertion was so constant that the Collector in one case represented the uselessness of measuring the lands of a village eighteen months before assessing it, as "a year makes a great difference in the condition of a village; so given are the people to go from one village to another;" and even the owners are described as "at times prepared to remove their ploughs and cattle to the waste lands of a neighbouring village."

The most stringent measures were adopted to check this evil. As late as 1837, if the people deserted their holdings, they were proclaimed, and if they did not return within one month, all their rights lapsed to Government, which forthwith bestowed them on another. Meanwhile the village which harboured the defaulters and allowed them to cultivate its lands was subject to fine and imprisonment. The village of Bhainiyal, assessed at Rs. 1,148, was sold for a balance of Rs. 288, and bought by Colonel Skinner for Rs. 140. In one case efforts were made to hold a semi-independent chief liable for the arrears of defaulters who had fled to his protection. The correspondence of the day is full of "the constituency of the people" and the decided measures necessary to "crush this sort of rebellion." The constituency consisted in omitting to pay a demand which absorbed 60 per cent. of the whole yield of their herds and stores; the rebellion, in leaving, through fear of a prison, the home-land which is dearer perhaps to the Indian villager than to any other man on God's earth.

(3). It is needless to describe at any length the steps by which a more reasonable system was arrived at. The famine of 1823 first forced upon the authorities a revision of the assessments, which was made under Regulation VII of 1822. The demands still averaged Rs. 3-3 to Rs. 4-3 on cultivation in small singly estates, and Rs. 2-0 to Rs. 3-3 on the whole culturable area in fully-peopled villages. But a great advance had been made. The revenue survey made in 1828, by giving firm

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tion.*

ground to work upon, had rendered impossible those gross inequalities of assessments which had till then been unavoidable. The half-share principle, too, was abandoned, the demand being estimated to absorb about a fourth of the gross produce; and the revenue was collected after instead of before harvest. More attention was paid to the rights of individual, field-to-field records were prepared showing the proprietary and cultivating tenures, each owner and each occupancy tenant received a slip stating the amount he was liable for, and patwaris of a sort were appointed; yet surplus land which a village could not cultivate was still largely settled with the neighbouring villages, and estates were farmed, even when the owners agreed to the assessment, if "poor and broken up," or, when fluctuating, if the farmer would give 10 per cent. more than they offered. In fact, the system pursued throughout was that, having estimated the assessment as a guide, the Collector put up the estate to be bid for, allowing the owners a margin of 10 per cent. in their favour. Direct manag'ment was still frequently resorted to, many villages were still partly broken up or deserted by their inhabitants, the balance of twenty years still hung suspended over the people; but the general state of affairs was greatly improved, and in 1831 the Collector could report that "for the last four years the 'revenue has been collected with more reasonable regularity."

After the failure of 1830 the assessments were again largely reduced. It was found that cultivation had "very generally decreased" since the survey of 1828. The rates were still exceedingly high. A rate of Rs. 2-3-5 per culturable acre was taken as a standard to be worked up to, with "a considerably sum added for pasture" in sparsely peopled villages; and the average on cultivation was Rs. 3-2 to Rs. 3-12, while the rate in some cases reached Rs. 6 or even Rs. 9 an acre. A still greater boom was the remission of the outstanding balances, which was effected in 1836-39. Between this time and the regular settlement of 1842 the assessments of individual villages were, in the Khadir at least, continually being reduced; but no complete revision of settlement was attempted. In January 1839, for the first time since the conquest of the tract, no one was in prison on account of revenue balances; and imprisonment on this score may be said to have ceased as a common practice from that date.

The Bangar villages, being for the most part larger and more populous than those of the Khadir, had suffered somewhat less from ruin in the days preceding our rule; but, on the other hand, the greater labour which a tiller will entail upon the cultivator, and the uncertainty of the yield in a tract almost entirely dependent upon rain, made the return of the inhabitants to a village which they had once deserted less easy. The irrigation from the Royal Canal had, till the failing of the Rungali power threw the country into confusion, been very extensive; and they no doubt, as now, wells were but little used where canal

water could be got, while the troubles which closed the canal were not favourable to the laying out of capital in making new wells. The tract was therefore more than ordinary dependent upon rainfall—a fact which kept down the cultivation to a far smaller proportion of the cultivable area than in the Khudir. Thus while, on the one hand, demands based on cultivated or cultivable areas pressed far more heavily than where abundant water was easily procurable, on the other hand, when security to life and property were once assured, the existence of an unlimited area of soil as fertile as any already under the plough, gave, with the rapid increase of cultivation, an elasticity under inordinate assessment which was wanting in the more fully developed revenue tract; and the gradual extension of canal irrigation so aided this increase, that from the time when the canal was restored by our Government, its history may almost be said to be the history of the Bangar. That history is sketched in Appendix A, and need not be repeated here.

After 1833 cultivation made enormous strides, and from that time till the regular settlement the prosperity of the Bangar was unbroken save by the epidemics of 1841 and 1843; for beauty rain meant nothing more disagreeable than high prices to villages protected by the canal. These epidemics, however, assumed a special severity in the canal-watered tracts, and inaugurated for them a reign of malaria, the continuity of which has never since been broken.

332. In 1837 a revision of settlement under Regulation IX of 1833 was ordered; and Mr. Alexander Fraser reported on the Panipat Bangar in 1839. His report is lost; but he slightly reduced the current demand. His proposals were rejected, not only as being inadequate to the capabilities of the tract, but still more as being unequal in their incidence, while his survey was found to be so incorrect that the whole work had to be done over again. Mr. Edmonstone then took charge of the settlement, and finally reported on it in 1842. The report has been reprinted in "Settlement Reports of the Delhi Territory, 1871." In every Khudir village but one the new demand was lower than the existing one, and in every village but two, lower than that first assessed upon it; the total reduction was about 15 per cent., and the incidence of the revenue per cultivated acre was Rs. 2-11. In the Bangar the current demand was raised by 6 per cent.; but reductions were given in all the finest and largest villages. The incidence upon cultivation was Rs. 2-8-11. At the ratification of the settlement after all outstanding balances were remitted; and the people at length had a fair chance of prosperity.

The new assessment not only possessed the unprecedented merit of moderation, but it bestowed the still greater boon of a substitution of the burden bearing some intelligible relation to means of bearing it. Hitherto, each assessment had been

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ment of 1842

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chiefly based upon the one before it, reduced in such degree as was thought absolutely necessary to keep the inhabitants from encoupling. What rates were used had been applied to cultivated or cultural areas, without distinction of kinds of soil or of irrigated and unirrigated land. The new settlement was based upon rates carefully estimated for each of the three kinds of soil in both its irrigated and dry conditions. The extravagant difference between the rates paid by Jats and those demanded from Gujars, which had imposed upon the former what Mr. Edmonstone characterises as a severity of taxation "of which, in the course of my experience, I have seldom found similar instances," was in a great measure removed. The long term of the settlement gave substance to the relief, and as Mr. Lawrence says, "the people were remarkably well pleased." The table on the next page gives the best figures obtainable for these old assessments:—

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EINSTEIN AND THE POLARIZABLE CONTINUUM

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*Revenue history
since the Regular
settlement. T. H.
Kinnar.*

§33. The history of the Khadir since the regular settlement has, on the whole, been satisfactorily monotonous. In 1843 an epidemic occurred, more terrible even than that of 1841. In 1851 a drought began which continued to 1852 and almost caused a famine; and the effects upon the crops were "infinitely disastrous." The famine of 1859-60 was in some degree compensated for by the bumper crops of 1861-62. In 1869 it was estimated that 29,000 cattle died in the Khadir and Bangar tracts. In 1875-77 there was a grass famine and the loss of cattle was serious. The absolutely useless Barrage was dug right across the tract, impeding traffic, holding up the Bangar drainage in a great lake between the Khadir bank and the Grand Trunk Road, and allowing it to burst through the rotten banks, to the great injury of the cultivation below it and of the health of the city of Panipat. And much damage has been done by saline effluvium and swamp in the north of the tract, where the canal and the Budha Khera escape traverse the Khadir. The river has done much harm by cutting away good soil; and in some years, by passing in flood down its old abandoned channels. In his assessment of 1842 Mr. Edmonstone did not sufficiently allow for the inferior soil and still more inferior cultivation of the Rajputs and Sayids who hold the more northern villages; and some of these villages utterly broke down, and considerable reductions had to be made in one instance to the extent of 33 per cent. of the whole demand. But on the whole the settlement, especially in the Panipat *tahsil*, worked well; and the tract prospered with the exception of its northern extremity.

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Bangar.*

§34. In the Bangar the later, no less than the earlier history, depends almost wholly upon the canal and its action in the tract it traverses. The famine of 1859 is still remembered as the year in which all the canal villages cleared up their accounts with the village money-lenders; while in 1869, though the cattle suffered no less than elsewhere, yet the luxuriant crops and high prices went far to compensate the people for the loss. From 1871 to 1874 they suffered severely from heavy rains; and in the drought of 1875 the peculiarities of the season conspired against them to prevent them from taking advantage, as usual, of a scanty rainfall. But the vicissitudes of the seasons are quite overshadowed in the Bangar by the terrible evils which the canal system has caused by interference with the natural drainage of the country. These are full described in Appendix A.

Very soon after the regular settlement, the deterioration of the soil forced itself upon the attention of Government. In 1854 the people of some of the worst villages determined to abandon them and settle in Jhalu until relief were afforded. The Government, however, decided that the terms of settlement must be nullified in, and that the people had "no right to any consideration"; and all that was done was to take certain villages under direct management, the Sadr Board declining to deal with individual settlers, and directing that a general report should be made

when, and not till when, the revenue could no longer be realized. As pointed out by Mr. Sherer, "the Jats of this district will pay up as long as it is possible for them to raise money by any device, or at any immediate sacrifice; and when they find default inevitable, they consider the worst come, and leave their villages." Thus the break up was "sudden and complete." In 1856 most of the inhabitants of the worst villages deserted them and fled to Sindh, and the villages utterly broke down. The Government suspected the "lamentable apathy" of the Collector; and Mr. Sherer, Collector of Aligarh, was specially deputed to survey and report on the tract.

His admirable report was submitted in 1857, and is printed as part of Selections No. XLII. (1864) from Government of India correspondence, P.W.D., pages 4-15. He showed that the water-level had been raised by the canal from some 50 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the evil had not nearly reached its limits, but must necessarily continue to spread almost indefinitely. He wrote:—

"The possible resources of the bisectors of several estates are now exhausted. They have borrowed money at extravagant interest; they have become the mere farm slaves of some bawla residing in their village; they have sold the trees on their estates; they have sold their daughters; they have sold their silver ornaments and brass utensils, and as many of their cattle as it was possible to spare; and no conceivable source of income is any longer available."

Between 1859 and 1861 the villages were taken up in detail; considerable initial reductions were given; and principles were laid down upon which annual relief was to be afforded where necessary, and revenue was to be reimposed where land had recovered. The whole revenue remitted on this account since 1856 has been about Rs. 1,52,350. Mr. Ubbeson thus describes the result of these operations:—

"I have no hesitation in saying that the relief afforded has been wholly inadequate. The initial reductions, welcome as they were to the sufferers, do not seem to me to have adequately measured the degree of mischief. The demand on such land as had become absolutely and obviously unculturable was remitted; but little, if any, allowance was made for the deterioration of the remaining cultivation, for the impoverishment due to an ever-increasing burden borne for so many years, for the sickness of people and cattle, or for the almost total absence of pasture. No reduction was given where the decrease in cultivation was less than 10 per cent. on the whole cultivated area of the villages; and the result was that the individuals and subdivisions of villages which had lost a much larger proportion of their land failed to obtain relief.

"As for the subsequent yearly action it is difficult to characterize it too strongly. The directions of Government would appear to have been entirely overlooked, and no intelligent review of the whole circumstances of a village ever attempted. No regulations have ever been made, so far as I can discover, on account of general

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*Revenue history
since the British
Government. It is a
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deterioration, — part from decrease of cultivation. That it became merely a matter of arithmetic — so many acres rendered barren at so much an acre, find the reduction in assessment — was perhaps only to be expected in what had become a part of the yearly routine of the *takali*. And to crown all a mistaken reading of the orders reduced the inquiry to such parts only of the area of each village as had been fully injured before 1830 ; so that subsequent spread of the arid was not taken into account at all."

The Mandal Tract.

355. The early history of the Mandal Tract which had been made over to the natives in 1806, differs materially from that of the remainder of the tract as sketched above : for up to 1847 there was no fixed demand, the Mandals collecting their share of the produce in kind. The Mandal villages were pre-eminently notorious for turbulence and crime. They were almost wholly held by Rajpups, proud, quarrelsome, and fearless, looking upon agriculture as derogatory ; they were cattle-graziers by profession, and cattle-lifters by hereditary taste. The few large villages in which they were concentrated were elevated far above the surrounding plain upon the accumulation of centuries, were surrounded by deep ditchies and high walls with forts at the four corners, could only be entered by strong gateways with massive doors, were composed of lofty houses which turn their looped backs to the narrow winding streets, and were built almost entirely of brick. From these strongholds they drove forth their herds to pasture, while their servants tilled the waste fields. Watchers on watch-towers and high trees throughout the *jangal* constantly scanned the plain beneath; and on the approach of danger, men and cattle sought the shelter of the village, or found yet greater safety in the pathless intricacies of the forest. Such were the people from whom the Mandals "holding, indeed, the title of *fagjular*, yet possessing neither the name nor the authority of an executive officer," had to realize the revenue assigned to them by Government.

Under those circumstances the collection of rent from the villagers by the Mandals was a constant struggle between exaction and oppression on the one side, and audacity and evading on the other. The Mandals themselves, deprived of the mental stimulus to which the warlike times just past had accustomed them, found that harassing and oppressing the Government officers, even to lengths which would now-a-days infallibly end in a visit to jail, did not afford them sufficient excitement, and fell to quarrelling among themselves. The villagers fully entered into the spirit of this pursuit. Many of the largest villages were held jointly by the various Mandal families, and the boundaries of all were but loosely defined ; and the people found that it was at once profitable and exciting to play off one Mandal against another. The chiefs themselves were for the most part ignorant and illiterate, and more inclined to pleasure than business ; and the management of the estates was left in the hands of dishonest and unscrupulous stewards, whose interest in them was strictly confined to the immediate profit that

would be made from them. Thus arose that bitter feeling of hostility between the villagers and the Mandals which exists to a greatly diminished intensity to the present day.*

The pargana, thus managed, had always been a bane in the eyes of the authorities. At first the villagers had probably rather the best of the contest. But as order spread and authority was established, the position enjoyed by the Mandals, their greater knowledge of the law, and their larger purses, gave them a very decided advantage. As early as 1827 the Collector reported that the Mandals exercised very great oppression. In 1834 Mr. John Lawrence wrote that they were brutally unfair and extortionate; and the instances he gave in support of his assertion are such as it is almost incredible should have been permitted by the authorities. Eventually matters reached such a pitch that Government had to appoint a manager to act for the Mandals in some of the larger estates. Meanwhile the Banger and Khadir had been steadily progressing and cultivation extending. Even in the Nardak improved administration had done much to reclaim the people from their lawless habits; and in 1847 only 12 of the 105 villages were uninhabited, and those were small ones. But the proportion of the area under cultivation was still exceedingly small; the "police officials openly connived with the notorious depredators of those parts;" and the Nardak was "the most troublesome and the only turbulent part of the district." Such was the condition of the tract when the Lieutenant-Governor marched through it in the end of 1844. The impression made upon him by what he then saw, and the detailed instructions which he issued, will be found at length in Mr. Ibstock's Assessment Reports. The following extract will show the considerations which led him to direct that a regular settlement of the Mandal villages should be effected:—

"In marching from Kurnool to Rajahmundry the Lieutenant-Governor was much struck with the poverty and bad management of a great part of this estate. * * * The estate is large and valuable, whilst the permanent quit-rent with which it is charged is trifling. The Mandals are understood to have been already great gainers by the exchange; whilst by good management the value may be very greatly improved. The villages are British territory, subject to our laws in all branches of the administration. It is very doubtful if any circumstances justify the Government in leaving subordinate proprietors at the mercy of an assignee of the Government revenue, without interfering to define and record the rights of all parties. Circumstances in this case, however, particularly bind the Government to interfere. The lands were assigned by this Government, who are therefore bound to come forward and provide that no wrong is inflicted by the act of assignment, which resulted from the policy of the day. There are no established and doubtful claims of proprietary right to investigate. The village communities remain

* The villagers to this day commonly speak of the Mandal who receives their revenue as their "foulah"—or "prosecutor."

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in all their integrity the unquestioned owners of the soil, and often able to resist by physical strength even the just demand of their superiors. If by one policy we deprive them of the benefit of their strength, we are bound to substitute for their innate means of resistance the protection of legal arbitration. The Mandals did not very strongly object to the measure. They were apprehensive that it might entail those influences and considerations, though they perceived that it might augment their income. The measure ought not to rest on their approval or rejection, and the Lieutenant-Governor is fully convinced that justice and sound policy alike demand its execution."

Mandals. Settlement of 1847.

336. Mr Gubbins at once commenced the settlement which was sanctioned in 1847. The operations were conducted under circumstances of the greatest difficulty. The conquest of the Punjab was then in progress; and at the frontier station of Karim the demands upon the time of the civil officer were heavy and inexorable. The Mandals presented their conflicting interests with "money, argument, and occasionally armed retainers;" the people, unaware of its importance, were profoundly indifferent to the correctness of the record. The Settlement Officer did his best to patch up his material by arbitrarily increasing or diminishing all reported areas in different villages according as he thought the survey figures too small or too large; but he confessed that the record was eminently unsatisfactory; and therefore proposed that sanction should be accorded to the settlement for a term of five years only. But the errors of survey and record were immaterial, compared with the capital error which visited his assessments. His duty was to assess the dues of the Mandals, which were measured by "the legal and regulated right of Government to the land revenue." Hitherto the Mandals had collected rent, not revenue; and almost always in kind. Theoretically, the new demands should have been, under the rule of the day, two-thirds of the average collections thus made. Instead of this he assessed the Nardak at more than the average past collections as stated by the Mandals themselves, though their statements were known to be grossly exaggerated, and though a fixed money demand was being substituted for a self-adjusting levy of a share of produce as it varied with the varying seasons.

The settlement thus made was received with the greatest discontent. The people refused to accept it; and the Mandals, while petitioning against it as unduly low, encouraged the people in their refusal by promising them easier terms. The feeling of the people was especially rankled by the transfer to the Mandals in absolute property, under the directions of Government, of all villages which had been abandoned when the Mandals took over the tract, and to the resettling of which they had in any way contributed, either by loan, expenditure of capital, or settling cultivators. Ten inhabited and 12 uninhabited villages, comprising an area of 20,500 acres, were thus made over to the Mandals; they still hold them as owners; and this more than anything else

has succeeded to envenom the minds of the people against the jagirdars. The settlement was sanctioned, at the request of the settlement officer, for five years only; and the people eventually accepted the terms offered. Mr. Gubbins' report is printed as No. XXXI, Part VI, Vol. II of Selections from public correspondence, North-Western Provinces, Agra, 1852.

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337. Within these five years balances of Rs. 65,589 had accrued on an assessment of Rs. 30,763 in the 25 leading villages of the Nardak. Some balances were also owing in the Khairi. The Collector reported that the most of the people would gladly return to direct management, and would certainly refuse to renew their engagements; that it would be impossible to find farmers; and that the Mandals had taken out decrees for their balances, and would probably put up the villages to sale. The Lieutenant-Governor discussed the matter at Delhi, and Mr. Ross was directed to revise the assessment. He was directed to "arbitrate between the Mandals and the people as he would between Government and its revenue-payers." He was to reduce the assessment, if too heavy; and to endeavour to induce the Mandals to relinquish so much of the balances as might appear to be due to over-assessment. As they held decrees, nothing more than persuasion could be used; but if they declined to abandon unjust claims, the estates were to be assessed at exceedingly low rates, so as to render the liquidation of balances possible. Mr. Ross failed to induce the Mandals to relinquish any part of their balances; but with great difficulty he brought them to accept payment by instalments. He reported that "he had seen many parts of the country, but nowhere had he beheld so much poverty and depression as in many of the large villages of the Nardak; that house after house was deserted and in ruins; that there was an absence of everything indicative of comfort; and that the number of cattle that had died during the season would still further affect the prosperity of the villages." He also pointed out that, independently of the impoverished state of the estates (which alone would make it impossible), the absence of the majority of the villagers must render any attempt to collect even a portion of the balances abortive; for famine had driven the greater part of the Nardak population to other and more fertile districts, there to gain a livelihood as they best could, and graze their starving herds. Yet he wholly failed to realize the inordinate nature of the assessments he was revising; he was of opinion that their failure was owing to a quite exceptional run of bad seasons; and while he proposed a quite nominal reduction of 6 per cent. in the Nardak and 4 per cent. on the whole tract, he directed the balances to be liquidated by yearly instalments of half the assessment, thus really enhancing the demand, which the people had been wholly unable to pay, by 40 per cent.

The people of most of the Nardak and of many of the Bangar villages, where the canal was beginning to do harm, refused the terms; and of a total demand of Rs. 1,00,000, only Rs. 59,230,

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was engaged for. No farmers were forthcoming, and the Mandals took the recalcant villages into direct management. They also sued out execution of their decrees for balances; but the Sadr Board flatly refused to allow any estate to be put up for sale till Government orders on the revised settlement should be received, and thus saved the Nardak from wholesale confiscation. The orders of Government were delayed, and in 1855 it was found that direct management had not even realized the assessment, much less reduced the balances, while in the Nardak villages which had engaged for the new assessments new balances had steadily accrued year by year.

The Lieutenant-Governor can more discuss the matter at Delhi. He acted with regret that it was not within the competence of Government to take the *pargana* entirely under its own management, paying the revenue collected to the Mandals. He remarked that there was "good reason to apprehend that frequent failure of crops was much more the rule prevailing over the tract" than Mr. Ross had been led to believe in 1852; and he refused sanction to the assessments of 1852, and directed Mr. Ross to make another revision.

Revision of 1854.

338. Mr. Ross reported that most of the Nardak, and especially the recalcant villages, had rapidly deteriorated even from their "wretchedly depressed and impoverished condition" in 1852; that one-and-a-half out of the three years that had elapsed since the *pargana* had been last assessed had been, if not seasons of complete drought, at least seasons of partial famine; and that it was only surprising that the estates had "not sunk altogether." The rural villages he found to have been impoverished by the "steady and rapid increase of *reh*, all being more or less afflicted, and in some instances insatiable demands having been done, while every year sees its increasing." He also animadverted upon the Mandal management:—"No consideration is ever shown, no concession granted with a good grace, and in seasons of scarcity there is no disposition to be moderate. On the contrary, the sole aim is to squeeze as much out of the estates as possible;" and he instanced a village in which no crops had been sown owing to drought, and where the Mandal waited till a lapse of nine months had removed all proof of this fact, and then applied for the realization of a money-rate, on the ground that the people had prevented his servants from measuring and appraising the crops as they stood. He took the rates Captain Larkins was then using in his revision of the Khairal settlement, increased them somewhat, and adopted them as a guide. But his assessment and note-books show that he made but little use of them, trusting rather to his knowledge of the tract, and to the past history of each village. He reduced the assessment of the whole *pargana* by 20 per cent. In the canal tract he relieved 10 out of the 15 villages, the total reductions being 16 per cent. In the Khadir a reduction was given in six villages, amounting to 12 per cent. in the whole. In the Nardak the demands of all but five villages

were reduced, in many cases, to less than half the demand of 1847; the assessment being Rs. 28,100 against Rs. 50,750 in 1852, and Rs. 53,848 in 1847. As nothing more is heard of the old balances, it is probable that the collections between 1852 and 1856 were credited against them, and they were thus got rid of. The figures on the next page show the result of the two reductions of assessment.

The mutiny and the transfer of the district to the Panjab caused some delay; but in 1860 the Panjab Government, while regretting that the pastur lands had been assessed, and remarking that the assessments were still considerably higher than those of the Kaithal district, sanctioned the settlement as having already been in operation for nine years. The Board of Revenue, agreeing with the Collector, had recommended that the collection of the revenue should be altogether taken away from the Mandals; but the chief of the family had done good service in the mutiny; and as the proposed measure would have been looked upon by him as an indignity, it was not carried out, and Government—

"Contented itself with confirming the arrangement, on the distinct understanding that the rights of the Mandals are limited to an assignment of the revenue, and do not extend to the ownership of the land; and that, in the event of calamities of season, deterioration by saline efflorescence, or other reasonable cause, the mandals shall receive the same equitable indulgences as are granted to khalsa villages."

The settlement so confirmed is that which Mr. Dibdewa revised.

389. Since 1856 the Nardak villages have, except in famine years, paid the demands then imposed without any very large balances or remissions, so far as is known. But of course, we know nothing about the realization of the Mandal revenue, except when matters reach such a point that Government is compelled to interfere, and the Mandals themselves admit that the revenue has been realized very irregularly and with the greatest difficulty. The only events worthy of notice have been the terrible famine of 1860 and 1861, and the drought of 1877, already fully described. During the famine of 1860, the right of Government to suspend and remit revenue in the villages granted to the Mandals, which had been distinctly postulated by the Financial Commissioner and Lieutenant-Governor when the settlement was sanctioned in 1860, was discussed and finally affirmed.

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540. The instructions by which the Settlement Officer was to be guided in the assessment, were conveyed in Government Punjab No. 1616, dated 3rd November 1873. They laid down that the demand was "not to exceed the estimated value of half the net produce of an estate; or, in other words, half the share of the produce of an estate ordinarily receivable by the landlord, either in money or kind." They directed him to pay special attention to produce estimates; and they further ruled that he was to "take into consideration all circumstances directly or indirectly bearing upon the assessment, such as rent-rates where money rates exist, the habits and character of the people, the proximity of markets for the disposal of produce, the incidence of past assessments, the existence of profits from grazing, and the like. These and other considerations must be allowed their weight." (1) Finally, they laid down that, after sanction had been received to the rates and gross assessment proposed for each taluk, "full consideration must be given to the special circumstances of such estate in fixing the assessment to be ultimately adopted." The most satisfactory basis of the settlement would have been rent-rates, had such been forthcoming. But true rent at competition rates is almost unknown in the district. Accordingly, as the share of the produce ordinarily receivable in kind by the landlord is fairly well established, estimates of the gross produce of the land assumed a peculiar importance.

Mr. Hobson divided the tract into the five circles of Nardak, Karnal and Panipat Khadir, and Karnal and Panipat Bangar, for assessment purposes. To utilise the produce estimates for purposes of assessment, it was necessary to fix the share of the produce ordinarily receivable by the landlord; and further to fix prices which, applied to that share of the gross produce, would give the estimated rental. Items have already been discussed in Chapter III (Section B). The proportions finally adopted were:—

Nardak—		
Irrigated or manured		
Other land	..	one-third,
Other Circles—		two-fourth.
Irrigated	..	one-third.
Dry	..	two-thirds.

541. The tables on the next two pages give the results of Mr. Hobson's assessment. The rates used in previous settlements are given in full detail in his report. These sanctioned for his settlement were as shown in the margin per acre.

Item.	Panipat		Karnal.	
	Excess	Deficiency	Excess	Deficiency
Total assessed	2,21,0	2,11,0	2,10,0	2,14,0
by land	2,14,0	2,04,0	2,04,0	2,04,0
" roads	2,14,0	2,04,0	2,04,0	2,04,0
" water	2,14,0	2,04,0	2,04,0	2,04,0
Water charge	2,14,0	2,04,0	2,04,0	2,04,0
Provision	—	—	—	—
Credit lost in the dry season	1,13,0	—	1,13,0	—

(1) The same instructions were given to the rest of the Karnal & Khanda settlement.

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Statement showing General Results of the Assessments in Bepur.

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Makan Tahr.			Qazia Villages			Wards Villages		
Revenue settled for Mandals.	Revenue settled to officers.	Revenue not settled	Revenue settled assigned.	Revenue not settled	Revenue assigned.	Revenue settled assigned.	Revenue settled assigned.	Total Reven- ue.
67,042 0 0	3,625 0 0	100 0 0	51,104 9 0	3,42,746 8 0	9,651 4 0	1,42,015 0 0	4,03,321 9 0	
500 0 0	30 0 0	1 0 0	449 0 0	4,200 0 0	1,261 4 0	826 2 0	7,280 0 0	
11,200 0 0	120 0 0	0 0 0	2,021 5 0	—	1,217 7 0	—	13,217 7 0	
41,113 0 0	3,008 8 0	0 0 0	27,664 1 0	3,25,610 0 0	7,937 0 0	1,00,620 0 0	4,15,714 0 0	
120 0 0	—	10,010 0 0	—	3,091 7 0	126 0 0	1,301 7 0	1,212 7 0	
46,300 0 0	3,268 0 0	10,778 0 0	21,964 1 0	3,20,517 7 0	7,261 9 0	1,47,720 7 0	4,29,660 0 0	
—	—	14,665 0 0	—	21,208 0 0	—	1,03,820 0 0	1,04,820 0 0	
47,200 0 0	4,346 8 0	24,004 0 0	29,064 1 0	3,24,560 7 0	70,201 9 0	4,23,560 7 0	5,24,560 7 0	
Total Revenue								

* The officers' rates of the Ward and overall other revenue from villages have been kept as the revenue grants.

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*Bources of the
Revenue. The
Nardak.*

The following pages, taken from the report, from a comparative description of the assessment:—

342. We have in the Nardak a high arid tract of scanty rainfall, held by a population which largely supplements agriculture by cattle-farming, and having only 27 per cent. of its area cultivated. Of the cultivation, 9 per cent. is irrigated by wells, while 3 per cent. is protected by, and 1½ per cent. ordinarily watered from, the canal. Only 4 per cent. is manured. Nine per cent. of the cultivation is held by alien landlords, 10 per cent. by Rajputs and Gujars, and only 31 per cent. by Jats and Rots. These last are chiefly found in the fringing villages of the tract, which, though the soil is distinctly inferior, have water at a moderate depth. These villages constitute only a sixth of the total area, but comprise two-sevenths of the cultivation, of which 32 per cent. is irrigated, including all the canal land. The remainder of the tract constituting the Nardak proper, and principally held by Rajputs, has only 5 per cent. of its cultivation irrigated, water being at a depth of 90 to 140 feet, the crops are therefore entirely dependent upon an uncertain rainfall averaging less than 18 inches, while the great stiffness of the soil enhances the eminently precarious nature of the yield. Thus Mr. Ibbetson stated that out of 40 crops, 16 had failed almost completely. Ninety-two per cent. of the whole cultivated area is under inferior sorts of grain, the yield of which, on the average of a number of years, is only sufficient for the subsistence of not quite two-thirds of the whole village population. At least 15 per cent. of the cultivation is in the hands of tenants paying no rent to the owners, while strangers own or hold in mortgage 9 per cent. more. There is an ample supply of cultivators; and agricultural appliances are, considering the inferior nature of the cultivation, fairly equal, over the whole tract, to the area under the plough; though the fringing villages have been much crippled in this respect by the cattle epidemic of 1869. The existing cultivation, if not supplemented by the produce of cattle, would be quite unequal to the needs of the population; but, though all the low-lying ground is already cultivated, there is ample room for expansion in the higher and drier soils.

The circle was held till 1840 on grain collections; an assessment was then made which was never realised; and the reductions effected in 1852 being insufficient, the greater part of it was held in direct management, or rather mismanagement, till 1856, when a reduction of more than 30 per cent. was made in the demand. Since then the revenue has been, except in years of actual famine, collected, though with great difficulty and irregularity. Early figures afford no trustworthy basis for a comparison; but it is probable that, setting aside the extraordinary seasons of 1873-75, cultivation has not materially increased since 1847; while the wells have decreased in number by 25 per cent. on the whole, and 42 per cent. in the Nardak proper. Meanwhile the population is multiplying rapidly. The cost of production has increased largely; but while the average yield has probably not sensibly altered,

now have risen by a quarter. The people are still, as Mr. Lawrence described them to be in 1848, "the poorest in the district;" their herds, which form their mainstay in bad seasons, were terribly diminished by the cattle epidemic of 1869, and were falling gently when Mr. Hibberton assessed the tract; most of the estates are impoverished; there is no hope of consideration being ever shown them by the Mandals, and therefore no hope of my consideration except when distress rises to a pitch which justifies the district officials in interfering. It was very necessary to give the Nandak villages very general relief in the shape of reduction of assessment.

In this circle a reduction of 19·3 per cent. was given in the current demand, which additional cesses, amounting to 12 per cent. on the revenue imposed since last settlement, reduced it to 16·8 per cent. on the whole burden as it stood in 1876, and to 13·5 on that of 1856. The demand so imposed forms 101·6 per cent. of the assessment at mentioned rates, and 103·1 and 107·7 per cent. of those given by rent and produce estimates respectively. The relief afforded by redistribution of the demand over the individual villages, was perhaps even greater than that afforded by the general reduction, and was even more urgently needed.

343. In Panipat Khadir we have a tract of which 59 per cent. is under cultivation. The soil is for the most part fertile, especially when carefully tilled, but a considerable portion is very sandy and poor, and 23 per cent. is exposed to flooding by the river. Its lightness and the nearness of the water reduce the labour of agriculture; and 74 per cent. of the cultivation is protected from draught by canals and permanent wells, while 11 per cent. is partially protected by temporary wells; the crops are, however, exceedingly liable to damage by excess of moisture: 32 per cent. of the cultivation is measured. The mass of the cultivation is carried on by the proprietors themselves, but at least 11 per cent. of it is in the hands of very small tenants who pay no rent to the owners, and strangers own or hold in mortgage 41 per cent. of it. Thirty-eight per cent. of the cultivated area is in the hands of the Jats, and 33 per cent. in those of the worst cultivators in India; while the remainder is with castes but little better than the Jatis. Agricultural appliances are fairly equal, and cultivators are thus equal, to the area under the plough; but the cattle are not sufficient to enable full use to be made of the existing means of irrigation. The population, especially in Jat villages, is disproportionately large, even to the verge of distress, and the subdivision of holdings is excessive.

After cruel over-assessment which impoverished the Jats and drove away the others, gradual but insufficient relief was followed at the end of 25 years of suffering by an assessment which, though left only by comparison, was fairly distributed, and must be said to have worked distinctly well. During 25 years of this assessment the people have been free from distress, except such as has been caused by famine; the cultivated area has increased by 2 per cent.,

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Nandak.

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assess. P & L p 2
Khadir.

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Results of the assessment. Pastoral Excess.

and has in a large number of villages, and notably in the best ones, almost reached the limit of profitable expansion; while the population is rapidly increasing. The cost of production has increased largely, and the average yield must have somewhat decreased; but prices have risen by a quarter, and agricultural appliances have fully kept pace with the cultivation. The people of the tract may be said, in general, to be prosperous, though not remarkably so; but many of the Gujar villages, and some Jat ones, in which sufficient reduction was not given in 1842, required relief, though not in any large degree. Some of the Gujar and many of the Jat villages naturally had their demand enhanced, though, on the whole, increase in the assessment was smaller than that in the cultivation; and in some villages, where the advance made was very great, it was thought inexpedient to realize the full demand at once. In this circle the demand was enhanced by 2·4 per cent., while additional taxes imposed raised the total increase to 9·4 per cent. on the burden of 1842, and to 11·9 per cent. on that of last settlement. The new assessment is 98·4 per cent. of that given by Mr. Lubbock's sanctioned rates, and 2·6 per cent. in excess of rent, and 9·7 per cent. below his produce estimate. At the same time the incidence of the burden was redistributed so as to afford much needed relief to many of the estates which had, from various causes, become impoverished.

Results of the assessment. Rural Economy.

344. This tract is, in many respects, the exact antithesis of the Nardak. The soil in general is not infertile, and well repays careful cultivation; though, without it, its yield is small, and a considerable portion of it is always very sandy and poor. Eleven per cent. of it is liable to most destructive inundation by the river, while the whole northern corner has been seriously damaged by red and swampy soil from the canal and its escape—cells which are slowly increasing. The lightness of the soil and the nearness of water reduce the labour of agriculture to a minimum. Of the cultivation 61 per cent. is irrigated from permanent wells, which, however, can only water some 12 per cent. of this area in any one year; temporary wells partly protect 4 per cent. more; and 22 per cent. of the whole is manured. Tenants hold, at least, 23 per cent. of the cultivation, most of whom pay only a nominal rent to the owners; while strangers own or hold in mortgage 9 per cent. more. Only 18 per cent. of the cultivated area is in the hands of good cultivators, while the remainder is held by quite the worst in India, 6 per cent. of the owners abstaining from manual labour of every sort. Appliances and cultivators alike are barely equal to the needs of the cultivation, being abundant in the Jat and Rai villages, but in marked defect in the others; the appliances for irrigation also are specially insufficient. The population, especially in Jat villages, is disproportionately large. The subdivision of holdings caused by over-population is enhanced by the adhesion to the Muhammadan Law of inheritance of a considerable Saini community.

About a quarter of the tract was held in direct management by the Mandals till the settlement of 1847, the remainder suffered for 26 years cruel assessment, and the relief afforded in 1842 was found to be insufficient. Throughout the whole tract the demand had had to be reduced considerably since settlement. Meanwhile, though the cultivation had increased by some 3 per cent., the necessary wells had slightly diminished in number, while 6 per cent. of the irrigation, the most important element in Khande cultivation, had deteriorated from permanent to temporary. The cost of production had increased largely, and the average yield must have somewhat decreased, but prices had risen by a quarter since settlement. The Jat and Ror villages were on the whole prosperous, except where the pressure of population was unusually great, but some of the Taga, many of the Rajput, and all the Sayid villages, were greatly impoverished, and sadly needed relief. In this circle a reduction of 8½ per cent. on the current demand was given, which the introduction of new rates reduced to a relief of Rs. 4-4 per cent. on the total burden. The demand so increased formed 110·5 per cent. of that given by the sanctioned rates, and 99·7 and 102·9 per cent. respectively of the rent and produce estimates. A re-distribution of the demand was urgently called for, and, while in many prosperous villages the assessment was raised, much-needed relief was granted to a still greater number.

315. In Piplai Bangar we have a tract of which 52½ per cent. was cultivated, 12 per cent. had been lately thrown out of cultivation, because it is either absolutely uncultivable or only culturable in an unusually dry year, 29 per cent. was positively barren, and the remaining 17 per cent., which was shown as culturable, included a good deal of land which is really not worth the labour of tillage. The soil is naturally most fertile, and, when not exhausted by over-cropping and not disengaged by external causes, yields crops of the most splendid luxuriance. But the faulty alignment of the canal and its distributaries and the excessive irrigation practised had water-logged the country, and called into existence two terrible evils—saline efflorescence and swamp or marshes—which had not only rendered absolutely barren thousands of cultivated acres, but had seriously diminished the fertility of much of the remaining cultivation, while a system of狂ious over-cropping, partly due to the decrease in cultivation, and partly owing to the system of assessment adopted, had enhanced the deterioration. Seventy-seven per cent. was protected from drought by an irrigation which, though often uncertain in supply, yet could never altogether fail, and which was obtained with little or no labour and at a very moderate cost; twenty-one per cent. was manured. More than seven per cent.* of the cultivation was in the hands of the Skinner, and was cultivated by tenants at a high rent, usually of the most arid nature. Of the remainder the greater part was cultivated by the owners themselves, but 6 per cent. at the very least was held by strangers in excessively small holdings, while strangers owned or held

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land. Rent
Rate.**

**Some of assess-
ment, Piplai
Bangar.**

* Existing villages the form of which has now been lost.

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Results of the Settlement. Raupur Musgar.

In mortgage 34 per cent., fifty-four per cent. of the cultivation was owned by Jats, and 18 per cent. by Rors, who are almost as good; the Sikhs owned 7 per cent., and the remaining 21 per cent. was held by Gujars, Bawalis, and other equally bad cultivators. The cultivators were in the whole equal to the men under the plough; but the agricultural appliances were not only insufficient, but were badly distributed, being most wantily where most needed. The population in the injured villages was excessive, and was being rapidly decreased by emigration, while the cultivated area was slowly largely appropriated by land held in a neighbouring native state.

The early assessments were exorbitant, but the spread of canal irrigation and increase of cultivation were attended by a gradual reduction of the demand; and in 1852, when canal irrigation had nearly reached its maximum, and the tract had, as Mr. Shore says, "obtained 'its highest point of prosperity,'" a very moderate assessment seemed to occur, it from the possibility of distress. But from 1850 up till settlement the history of a very large portion of the tract had been one of deadly sickness, decaying cultivation, and diminishing fertility; and the relief afforded had been truly and honourable. While on the whole the cultivation had remained stationary, an increase in many villages of 16 per cent., had been counterbalanced by a loss of as much as 25 per cent. in others; the population had throughout advanced upon the cultivated area, and in a large portion expansion was impossible, and further illumination of cultivation almost a matter of certainty. The cost of production had increased largely, and the cost of canal irrigation enormously, while the average yield had diminished, and price had only risen by a quarter. While the high villages which had not suffered, were in the most prosperous condition, the estates which had been most severely visited by swamp and rabi were in the most pitiable state; and the villages of the tract included examples of stages intermediate between the two extremes.

In this circle the demand was increased by 14 per cent., while additional over-rates raised the enhancement to 5·8 per cent. on the total burden of 1870, and to 6·2 per cent. on that of the Settlement. The demand was 28·1 per cent. of that given by sanctioned rates, and 5·8 and 24·7 per cent. respectively of the rent and produce estimates. While many of the fair villages had their demand very considerably reduced, liberal relief was granted to the injured villages. And especially the separation of a portion of the demand to the form of owner's rates, for the first time, rendered it possible for those villages to reduce their irrigation in which that irrigation was most extensive, and its excessive nature most deleterious. It is probable that this reduction of irrigation will somewhat reduce the revenue of the circle below the estimate; but the water thus set free will be available in the Nardak or elsewhere, where it will bring in the same revenue as it would have done.

in this circle; while its transfer from a swamp-stricken to a thirsty tract will be an unmixed benefit to both.

143. Of Karnal Binger 473 per cent. was cultivated, 11 per cent. wastetting on the virgin land, 27 per cent. was absolutely barren, while of the 24 per cent. reserved as pasture, much was really not worth the labour of tillage. The soil, in all the lower parts of the tract, is naturally fertile, and, when fairly treated and not deteriorated by external causes, yields crops as fine as could be desired. But the terrible evils of red sand and swamp, which have threatened hundreds of acres out of cultivation, have forced the people to replace the best, where possible, by most of the features of Kardak cultivation, and, where this was impossible, to exhaust their remaining lands by a system of the most anxious over-cropping. These evils were ever increasing; and if they were of later date in Karnal than in Panipat they were in one respect more injurious, inasmuch as they more often held out delusive hopes, which led to much needless expenditure of capital labour. Surveyor per cent. of the cultivation was protected from drought by a irrigation which, though often uncertain in supply, yet never all together failed, and was obtained with little labour and at a very moderate cost: 22 per cent. was manured. Tondia paying no rent to the owners held at least 24 per cent. of the cultivation, while strangers owned or held in mortgage 6 per cent. more: Jats and Rors cultivated 34 per cent., the remainder being held by Rajputs and the like. The cultivators were on the whole equal to the area under the plough; but the agricultural appliances were insufficient, while both were badly distributed, being in 1 nearly where most needed. The population in the injured villages was ex-sive, and was already being decreased by emigration chiefly, at present, of the non-cultivating classes.

More than a third of the tract was held by the Mandals in direct payment till 1847, when it was raised fairly enough; as the revenue officer also had been, after a period of remittent over-assessment, in 1842. But from 1850 till settlement, the history of almost every village in the tract had been one of deadly sickness, increase of swamp, and diminution of fertility. On the whole, cultivation had increased by 6 per cent., but the area had been largely kept up by the substitution of bad land for good; while the irrigation which had increased still faster, had, with the exception of three villages, mainly extended where it was least wanted. Nine villages had lost 20 per cent. of their whole cultivation; eight more had lost 13 per cent., increase had taken place in seven villages only; population had throughout gained upon the cultivated area, while not only was expansion impossible in those villages in which it was most needed, but it appeared to the Settlement officer that the productive area would contract year by year. The cost of production had increased largely, and the cost of canal irrigating enormously, while the average yield had very

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ment Kauri Ban-
gan*

greatly diminished, and prices had only risen by a quarter. The villages may be classified as were classified those of Panipat and it is enough to say that while the first class included four villages only, and one of these over populated, the third and worst class comprised most of the estates. It was said of the cultivation, in the circle. In the villages where progress had been made, it was impossible to enhance the demand in anything like the same proportion, as almost the whole increase in cultivation was confined to two villages which cultivated 7,905 acres against 4,270 at Settlement; and it was evident that their assessment could not be doubled.

In this circle the demand was enhanced by 12·4 per cent., an increase which 12 per cent. of additional revenue imposed since 1847, raised to 16·9 per cent. on the burden of 1870, and to 19·7 on that of last Settlement. This demand was 100·8 of the demand given by the sanctioned rates, and 102·9 and 103·5 per cent. of Mr. Libbott's rent and produce estimates respectively. The detailed assessment has conformed the same boon in this circle as in Panipat Banglej but the benefit of the separation of the owner's rates was even more valuable here than in that circle, in proportion as the swamp was more extensive.

**The owner's rate
system**

§ 47. Up to the revision of settlement, the canal irrigated land had been assessed exactly like any other land, a full assessment being realized year by year. This led to over-irrigation, and in the revision the owner's rate system was introduced, by which a portion of the revenue takes the form of a rate, called the owner's rate, which is realized in any year only on land irrigated from the canal in that year. After much discussion it was decided that this rate should, in the Western Jambus Canal, be fixed at half the occupier's rates, or rates charged by the Canal Department for the water they supply. The Canal Act under which these rates were imposed, had declared that they should not exceed the assessment leviable on the increase in value of the land due to canal irrigation, and an impression had been created thus that the whole assessment at this leviable was to take the form of owner's rates, the remainder or fixed assessment being assessed on the land in its dry aspect, and payable from it without any irrigation whatever. But the owner's rates, being fixed by Government, could not possibly represent an assessment the amount of which must necessarily vary with the circumstances of each village. It became necessary, in fact, "first to calculate the average occupier's rate, secondly to deduct half of this from the gross assessment calculated in the usual way, and thirdly to ascertain what remained after this deduction was made as the true ordinary or fixed assessment. The fixed assessment is thus made a sort of reduction from the owner's rate, and must of course in some cases fail to be in reality what it purports to be." The subject of the nature of the fixed "dry assessment" in canal irrigated estates is one of special importance in Kauri. A full discussion

of it will be found in para. 716-749 of Mr. Hibberton's Settlement Report.

348. As so large a portion of the fixed demand is so often an assessment on irrigation, Mr. Hibberton in accordance with the directions of the Financial Commissioner carefully reviewed his assessment of such villages of the canal tract, estimated roughly how much of the fixed demand should be considered to be assessed on the area then irrigated, tabulated this assessment, its incidence upon the canal area, the area shown as canal irrigated, and the average past irrigation, and classified the villages according as reduction of irrigation might be made to a greater or less extent without entailing reduction of demand. The general result was that in 28 villages the fixed demand could be paid without irrigation at all; in 43 more, irrigation might be very considerably, and in 18 more, less largely circumscribed without necessitating revision of assessment; in 21 more any very material reduction of irrigation would call for corresponding relief; while in the remaining set the fixed demand was so high that it could not be paid in full unless the supply of water was kept up, practically speaking, to the existing standard.

"Under these circumstances the Financial Commissioner suggested that it might be well to settle the canal tract for 15 years only. On general grounds, the shortening the term of settlement was of course objectionable, if it could be avoided, and the Government finally directed that the term of the settlement should be for 10 years; but that Government should reserve discretion to revise at the end of each five-yearly period the assessment of those villages in which the fixed demand fell short of the true dry assessment of the village. Mr. Hibberton had endeavoured so to frame his assessments that in no village should the fixed demand fall below a moderate dry assessment. But when re-considering the assessment of such canal villages in connection with the question to be discussed presently of future reduction of canal irrigation, he selected the five villages of Dugunpur, Bee, and Kotpur in tehsil Kurnal, and Behali and Wasirpur Towns in tehsil Panipat, and inserted in their administration papers a clause securing to Government the power of frequently revision. They are all swampy villages of the most aggravated description, in which the cultivators have been reduced to abject poverty by injury from the canal unaccompanied by sufficient rainfall, and of noising than Mr. Hibberton had been obliged to consider what they could pay in their abnormally depressed condition, while leaving room for them to improve themselves. He felt himself compelled to impose a very moderate fixed demand, but he thought it was almost certain that they would improve rapidly under a moderate assessment, and especially if it was probable, the enlargement of the canal relieved them of their swamps; and that their assessment was lower in relation to their men physical capacity than that of any other villages in the tract."

The order that these villages should only be assessed for five years was overlooked, but the demand has been raised from Rs. 2,530 to Rs. 3,370, with effect from Rabi 1891. The revised assessment will remain in force for the rest of the term of Mr. Hibberton's settlement.

Frequently revision assessment in certain villages.

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Assessment of assigned revenue.

253. At first no sort of settlement was made of any land of which the revenue was assigned, the assignee being left to collect rent from the owners. So long as the Government practically took the whole rent in the shape of revenue, this omission was of no importance, in fact, the owner of such land was better off than he who owned land assigned to Government revenue, for the former paid a demand varying with the seasons, the latter a fixed demand of extreme severity. But, as the Government revenue became gradually so limited as to leave a margin of profit for the owner, attention was attracted to the fact that unless we interfered between the owner and assignee as to secure to the former the same margin of profit which he would have enjoyed had the revenue of his land not been assigned, we were doing him an injustice, and conferring on the assignee larger rights than we claimed for ourselves and therefore larger than we had it in our power to alienate. This view appears to have been first authoritatively accepted for this part of India in 1830, when the Sadr Board pointed out that "where the assignment had been made by the British Government, it could have had no intention to inflict injury on all the resident proprietors of the pargana, or to compromise the rights, the maintenance of which had been pledged to them in common with their fellowmen throughout the country by Regulation XXV of 1803; and that Government had always declared that in granting *jafirs* or other lands they merely proposed to assign away their own revenue, and not the rights of the people. That Government would also appear, though somewhat tardily, to have at last received the conviction that the only way in which the ruling power could do its duty and secure the rights of the proprietors in such cases was to come forward and make similar arrangements on behalf of the assignees of these revenue-free holdings as it makes with communities paying revenue to Government."

But the Board went further than this, and extended the same principle to all assignments including such as had been granted under native governments, and only confirmed by the British. It remarked—

"The same rule appears to the Board to hold good as regards all free holdings, and, whatever a resident occupant community may boast in possession of land assigned as rent free, they should, as provided by section 17 Regulation VII of 1822, have similar terms made in their behalf with the Government assignee as the people in the neighbourhood obtain directly from Government."

The Lieutenant-Governor, N. W. P. accepted these principles in his No. 1058 of 9th August 1839; he pointed out several instances in which they had already been acted upon, and remarked that he "believed that every rent free holding, small and great, had been already subjected to this process in the districts in which the revised Settlement had been concluded." Upon this the Board remarked, that "the principle had thus been declared applicable to every rent-free holding, small and great," called for a report at once upon the larger holdings, and

remarked that "the smaller holdings would be dealt with as the investigation into revenue-free tenures was completed for each district." The principle was embodied in § 417 of the Directions to Settlement Officers, and the Settlement of the Mandali tract was effected in accordance with it in 1847.

§ 41. In the Settlement of 1849, the Settlement Officer proposed to settle villages of which the revenue had been assigned, together with the Government villages of *parsona Panipat*. But he was directed by the Board not to interfere, as it was "not the task of Government that sub-settlement should be made with the proprietary communities in main estates." Accordingly, no records were prepared, and the assignees continued to realize rent till 1850. The omission to make a proper Settlement was then brought by petition to the notice of Government which called for a report, and remarked that "if the rights in confirmed revenue-free villages in the Dihli division have hitherto remained undetermined, it is time that this state of things should cease." The Board reported on the question, which in that tract concerned only grants made by former governments and confirmed by us. The Senior Member held strongly that the native government, which had made the grant, had put the assignee in the position of landlord with the power to collect rents; and that it was unjust to "form a theory" that the Government had no right to alienate the rights of the owner and to reverse an arrangement of long standing. The Junior Member pointed out that what was proposed to be done was to a certain and record existing rights, and that the Senior Member's objection did not touch the admissibility of this process. The Lieutenant-Governor agreed with the Junior Member and directed all existing rights in revenue-free holdings to be investigated and adjusted. Accordingly between 1850 and 1852, records were prepared and summary settlements made for all lands of which the revenue was assigned. In some few cases the demand thus fixed was so high that the owners preferred to continue the old terms, but, as a rule, the settlements then made were acted upon up to the recent revision.

Unfortunately, too, the records were not prepared as carefully as they should have been, and the record of ownership was sometimes indefinite or entirely wanting. In some of them the revenue assignees of plots of land locally called *mills* to distinguish them from assignments of villages or shares of villages, claimed ownership in Mr. Bhutan's Settlement. But their claim was entirely without foundation. Mr. Hugh Fraser wrote—

"The mills in this district have not on any occasion that I am aware of laid claim to any proprietary right in the soil. All they contend for is that share of the produce which would belong to the State if the limit had not been altered. This is the opinion of every mill that I have ever spoken to on the subject." Again—*In this district the landlord's rights is not only distinct from, but moreover belongs to the person on whom has been bestowed the*

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*Assessment of jagir
 lands of persons in-
 cluding total Khad-
 iat.*

Government share of the produce. From among the hundreds of *mukhiya* which I have had occasion to investigate during my residence in this district, I can only recollect one instance in which the mukhiya claimed the *bawali* land; and in that case a distinct *kabut* was forthcoming."

355. The jagirdars of Indri and Kaithal are not properly speaking assignees of Government revenue, but mobilised chiefs whom we took under our protection, in return for which they agreed to furnish certain military aid. The obligation so incurred was afterwards commuted into a fixed money payment, calculated usually at two annas per rupee on the revenue of their jagirs. Until the regular settlement the jagirdars collected their revenue by levying *bati* and *rubbi* rates. It was at first proposed only to assess *Khalsa* villages, and merely to draw up rules of practice (*darbar-ul-fauj*) for jagir estates, unless either the jagirdar or the zamindars demanded a cash assessment. But after a lengthy correspondence it was decided that all jagir estates must be put under assessment. When the regular settlement broke down, the benefit of the revision effected was at first denied to the landowners in *jagir* villages, who were given the option of paying *batai* to the jagirdars, if they considered the cash assessment oppressive. Some villages in the Kharai Khadir belonging to the Kunjpura jagir paid by *batai* up to the recent revision of settlement.

**Government lands,
 forests, &c.**

*Government rights
 in canal land
 occupied for
 irrigation and
 Kurnool.*

356. Table No. XVII shows the area and income of Government estates; while Table No. XIX shows the area of land acquired by Government for public purposes. The encumbrance lands have already been discussed in para. 172 and the settlement of the leased estates in para. 157-164.

357. Mr. Ibbetson thus describes the action taken at his Settlement regarding Government rights in land occupied for the old Western Jumna Canal, a burning question in the Kurnool district :—

" Government, in the separate departments, is in possession of a great deal of land situated in the tracts, occupied chiefly by the *canal* channels and distributaries. But the question of ownership was more difficult. All the canal land, I think without a single exception, had been entered as property either of the village or of the individuals in the old record. Where land had been taken up and paid for by Government there was no dispute, or in the very rare cases when there was, the lie was forthcoming, as no Kurnool records had been destroyed in the mutiny. As regards the old distribution, too, it was admitted that the people had made these themselves on their own land—a fact specifically stated by the Inspector of Canals in his No. 424, of 3rd December 1857, to Commissioner, Delhi, as a ground for refusing remission of revenue on the land so occupied,—and that though Government had, when the water rates were raised, taken over the arrangements for their drainage, yet it had acquired only possession, and not property in them. But the Canal Department claimed property in the old canal bed and banks, on the score of long possession, of inheritances from

the preceding Government and of that was described in 1827 by Captain Colvin as—“a long existing custom, authorised when first made, though the date cannot be traced, affirming the right of Government as local proprietors, to the occupation of the ancient line of watercourse, 4 feet or its banks to extend to 10 yards from the edge of the banks; and applying equally to the line of canal, and the line of embankments, and except from the roads.” This claim the people in most urban districts had no right to it in the face of section 10 of the Land Revenue Act. In his No. 6501 of 1st October 1873, the Financial Commissioner directed us to ask the people, where they refused to admit the proprietary title of Government, whether they objected to the entry of a Government right of occupancy; and on our doing so, the villagers readily consented in every single instance to an entry to the effect that Government was entitled to hold the land so long as it was needed for canal purposes. This entry was accordingly made, and its meaning defined by a clause in the administration paper. In his No. 1251, of 3rd March 1879, and subsequent correspondence, the Financial Commissioner ruled that land for which no compensation had been paid was held by Government only for so long as it was needed, and that the original owners retained the reversionary right when this ceased to be the case; this being precisely the view urged all along by the people. He directed that—(1) land for which compensation had been made should be entered as Government property; (2) where no compensation had been made, the entry already described was sufficient; (3) and that even where the people had entered such land as Government property, their reversionary right should be recorded. Compensation was defined to include exchange of land, as well as cash payment; and when land had been taken and payment made for the cultivated parts only, it was ruled that the payment covered the whole.”

In 1880 the Financial Commissioner issued the following orders as to land on the old canal which is no longer required by the Canal Department:—

- (a) “that both below and above Indri, all land no longer now required for canal purposes be relinquished; the canal officers dredging what land can properly be so treated, and furnishing to the Deputy Commissioner his lists and plans thereof, but leaving it to the Deputy Commissioner to complete the relinquishment under the procedure prescribed in that behalf.”
- (b) “that similar relinquishments be continued hereafter in respect of any other land, the further occupation of which may at any time appear to be unnecessary.”

The Deputy Commissioner's report has not yet been submitted.

Chapter V. B. Land and Land Revenue.

Government rights
to rural land in
Patiala and Jajjar
and Karnal.

CHAPTER VI.

Chapter VI.
Towns and
Municipalities.
General statistics of
towns.

TOWNS & MUNICIPALITIES.

355. At the Census of 1881, all places possessing more than 5,000 inhabitants, all municipalities, and all head-quarters of districts and military posts were classed as towns. Under this rule, the following places were returned as the towns of the Karnal district :—

Town	Town	Persons.	Haus.	Persons.
Karnal	Karnal	23,183	13,834	19,807
	Knowpura	4,732	2,381	3,493
Panipat	Panipat	20,022	12,451	12,001
	Kasauli	14,743	7,392	7,422
Kaithal	Arora	5,717	2,902	2,725
	Bawali	4,977	2,570	2,494
	Pelana	5,409	1,951	1,673

The distribution by religion of the population of these towns and the number of houses in each are shown in Table No. XLIII, while further particulars will be found in the Census Report in Table No. XIX and its Appendix and Table No. XX. The remainder of this chapter consists of a detailed description of each town, with a brief notice of its history, the increase and decrease of its population, commerce, manufactures, municipal government, institutions, and public building; and statistics of births and deaths, trade and manufactures, whenever figures are available.

Town of Karnal.

356. Karnal is a municipal town and the administrative head-quarters of the district. It lies in latitude $29^{\circ} 42' 17''$ north longitude $77^{\circ} 1' 45''$ east. Its population is 23,183 souls consisting of 15,214 Hindus, 110 Sikhs, 213 Jains, 7,530 Mussalmans, 45 others. It stands upon comparatively high ground, just above the old bank of the Jamuna overlooking the Khadir or lowland tract. The river now flows 7 miles away to the east, and the old Western Jamuna Canal passes just beneath the city.

The town is enclosed by an old wall, immediately outside of which runs a metalled road, and has ten gates, of which the Narah, Kalandar, and Ghazni to the east, and the Jindia to the west, are the principal ones. To the west of the town lies an extensive suburb, which was the seat before of the old capital. To the north about a mile from the town lie the

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civil lines and public offices, on the site of the old cantonment. The streets of the town are all well paved or macadamised, but almost all of them are narrow and crooked. The drainage and indeed the sanitary arrangements inside the town are fairly good. The principal buildings of antiquarian interest are—(1) Kalagnan Sahib's tomb, situated just outside and to the east of the town. The grave is made of marble, and decorated with sculpture. This tomb was built by Ghias-ud-din, Emperor of Delhi, to the memory of Roth Kalander (A.D. 1271). The inhabitants of Panipat, however, deny that this Sufi was buried at Karnal, and they have a large tomb also to his memory in their town. Within the enclosure are a mosque and a reservoir with fountains built by the Emperor Alangir, and outside, a kettle-drum balcony. (2) Cantonment Church tower—This is a fine old massive tower, and can be seen at the distance of several miles as it is 100 feet in height. The body of the church was dismantled after the Cantonment of Karnal was abandoned in 1841 on account of its unhealthiness from the swamps of the Western Jumna Canal in its vicinity; the materials of the church were removed to Ambala. The tower is surrounded by a large ornamental cross, and inside the tower are several memorial tablets, which were removed from the walls of the church.

There are two cemeteries of the late cantonment with encircled tombs bearing witness to the terrible mortality of the troops from the ravages of swamp-created maladies.

The fort of Karnal once belonged to Biling Singh, former Raja of Jind. It was taken from him by the Mahrattas, and eventually came into the possession of Sardar Gurdit Singh of Badwa. It was captured by the English in 1803 and made over by General Ochterlony to Muhammed Khan (Muhal), grandfather of Azmat Ali Khan, the present Nawab of Karnal. On Karnal being formed into a British cantonment, it was decided by the authorities to take over the fort, suitable compensation being made to the Nawab. It was finally selected as a residence for Dost Muhammed Khan, Amir of Kabul, in which he was detained for about six months, on his way to Calcutta. The fort was used as a jail, as quarters for Native Cavalry, and as a poor-house. In 1862, it was made over to the Education Department when the district school was removed into it from the city.

The city of Karnal is said to have been founded by Bajji Kacch, a General on the side of the Mahrattas in the war of the Mahrattas. It would seem to have been a place of but little importance in early historical times; for while Panipat, Kaithal, and Thanesar are mentioned even by the early Arab geographers, and those towns and Samana and Surpat are commonly referred to by the early historians, Karnal is first mentioned towards the end of the Peshawar dynasty. The battle of Karnal has already been described in Chapter II, as indeed has the history of the

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town under the Sikhs. As a town, it owes much of its importance to Raja Gajpat Singh of Jindh who built the wall and fort, and under whose rule it increased considerably in size.

Jacque most describes it in 1831 A.D., in the following words—

"In the interior, an infamous sink, a lamp of every sort of uncleanliness. Amongst heaps of dung, brick-ribshah, and concrements of bones are winding paths scarcely passable for horses, and having here and there a few miserable huts. I have seen nothing so bad in India; and it is fair to mention that amongst the natives its filth is proverbial."

This is very far from applying to the present state of the town, which is internally well drained and clean. The inhabitants are Jats, Bains, Bors, and the ordinary miscellaneous mixture of Brahmins, Rajas, Mussulmans, and menials which always collects in a city. In the *sard bazaars* live many Purbias and Khotkis, &c., who came here with the troops, and used to find employment on the sirdi lands.

The city of Karnal had the very worst possible reputation for unhealthiness, and not undeservedly. The old canal cut off a great loop of the Khadur to the west of the city, while to the south lies a great natural bog. The drainage of the Bawali ran over the bank, and, held up by the canal and the Grand Trunk Road, formed a huge swamp right under the city; while rice cultivation is carried on up to the very walls. When, after the increase of irrigation following upon the famine of 1833, the carrying capacity of the canal was increased to the utmost, the swamp thus formed became pestilential to a degree, and the sickness in campments became so great that the troops were moved to Ambala about 1846, and the campments finally abandoned. In 1844, rice cultivation near the city was prohibited, and remained forbidden for many years, but has since been resumed. And canal irrigation was temporarily stopped in the neighbourhood of Karnal on sanitary grounds.

The filling up of the ditch which formerly surrounded the town, and the substitution of a masonry drain, has done much to improve its sanitation. The Karnal tank, situated to the north of the town, named after Raja Karn, its founder, is held in much veneration by the Hindu community. This tank was believed to add to the unhealthiness of the town by its frequent overflow. This has in a great measure been checked by deeper excavation, while its margin has been embanked with masonry steps. The old canal has ceased to run and the new canal passes through high land a mile or two to the west of the city. Some money has been spent of late on a small town drainage scheme and it may be hoped that the health of the place will improve.

The opening of the railway on the opposite side of the Jumna has somewhat prejudiced the commercial position of Karnal; having attracted from it much of the commerce formerly

running along the Grand Trunk Road, but the Delhi-Kalka Railway, which was opened in the present year, may bring back trade. The municipality of Karnal was first constituted in 1867. It was re-constituted in 1884 and is now a municipality of the 2nd class. The committee consists of five nominated and twelve elected members, from whom a president and vice-president are chosen by election. Table No. XLV shows the income of the municipality for the last few years. It is mostly derived from octroi levied on the value of almost all goods brought within the municipal limits for the consumption or use of its inhabitants. The chief manufactures are—country cloth for local consumption, and blankets, boats, and brass vessels for export. A considerable trade in leather is carried on, and there is a large population of Chaurasi who execute contracts for harness, saddlery, boats, and leather articles required by the cavalry and artillery. Skilled artisans are still to be found here, survivals from the old custom-house.

The public buildings in the civil station are the Deputy Commissioner's Court, Treasury, Police station, Police Lines, Staging Bungalow, Church, and Jail, also the tower of the old custom-house church. In the suburbs there are a District School, and a Post Office, one Government and two other sarais, a Dispensary, and the Municipal Committee room.

The Government maintains here a branch of the Hissar Cattle Farm and dep't for rearing army remounts.

Time of enumeration	Year of Census.	Persons	Date.	Persons.
Wards 1900	(1861 1881)	10,907 12,023	15,741 11,404	12,000 10,200
Municipal limits	1868 1875 1881	22,000 22,000 22,000	—	—

The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown in the margin.

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits according to the census of 1868 are taken from the published tables of the census of 1875; but it was noted

at the time that their accuracy was in many cases doubtful. In 1881 the town included all that lay within municipal boundaries, together with the encamping-ground, Civil Lines, and Stud Depot.

The Deputy Commissioner wrote as follows in the district report on the Census of 1881 regarding the decrease of population:—

"The decrease is in some measure due to the diminished trade owing to the opening of the railway, to the removal of the Stud

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Department, and to the presence of troops on the encamping ground in 1858, but still owing to the unhealthiness caused by the canal and the swamps around it, which has been intensified since 1882."

In the case of all the towns the constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII, and details of sex will be found in Table No. XX of the Census Report of 1881. The annual birth and death-rates per mille of population since 1851 for Karnal are given below, the basis of calculation being in every case the figures of the most recent Census. The figures for deaths show the extreme unhealthiness of the place. One tenth of the population died in 1884, when a very violent outbreak of fever took place in consequence of the heavy rain-fall and the flooded condition of the environs of the town:—

Detail.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	Avg. rate.
Birth-rate	28	30	36	43	24	36	36	30	33	33
Death-rate	45	36	38	102	46	98	97	99	30	40

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Town of Kunjpura.

357. Kunjpura is a small town in latitude $24^{\circ} 43'$ north, longitude $77^{\circ} 7' 15''$ east. It has a population of 4,725, consisting of 2,174 Hindus, 1,241 Jains, and 2,310 Mussulmans. It is situated in the Khâdir of the Jâmun, which now flows about 2 miles to the east, and is distant from Karnal 6 miles north-east. It is the residence of a distinguished Muhammadan family, whose head enjoys the reverence of the neighbourhood as jagirdar and bears the title of Nawab (para 194).

The town is enclosed by an old masonry wall, which is now in a dilapidated state. The public buildings are—a school, a police chauri, and dispensary. The Municipal Committee has been abolished. The trade of the town is wholly local and unimportant. The history of Kunjpura has already been given (para 194). It was from the cover of the fine orchards which still exist close to the town, that a division of the Persian army under Nadir Shah made an important flank movement on the forces of Muhammad Shah at the battle of Karnal in 1739 A.D. The population as ascertained at the enumerations of 1858, 1872, and 1881, is shown in the margin.

Units of successive census.	Date of Census.	Males.	Females.
Whole town ...	1858 1872 1881	2,174 1,241 2,310	2,550 1,237 2,384
Municipal limits	1858 1872 1881	2,145 1,239 2,313	— — —

The difficulty of comparing the results of these three enumerations noted in the case of Karnal exists here also.

388. Panipat is a municipal town and administrative head-quarters of a taluk of the same name. It lies in latitude $29^{\circ} 23'$ north longitude $77^{\circ} 1' 10''$ east, and has a population of 25,022 souls, consisting of 13,334 Hindus, 1 Sikh, 763 Jains, 16,017 Mussulmans, and 2 others. It is situated on the Grand Trunk Road, 53 miles west of Delhi, near the old track of the Jamuna, upon a high mound composed of the debris of centuries. From all sides the town slopes gently upwards towards an old fort, which is its highest point, and has low and spindly outskirts, receiving the drainage of the higher portion. The town is enclosed by an old wall which is formed by the back of many houses, and has 6 gates, of which the Sisgarh is the north, Shudhivayat to the south, Madhoganj to the east, and the principal ones, which stretch in all directions, to the west. The town is traversed by two main streets running respectively from east to west and from north to south, the latter being the principal one. The streets are all well paved or macadamised, but are narrow and crooked.

The principal building of antiquity within the city walls is the Dargah Kalander Sahib (para. 127). The tomb, with the exception of the pillars of the "dalan" or hall which are of tough stone, was erected by Khari Khan and Shadi Khan, sons of the Emperor Alauddin Ghori. The four stone pillars above-mentioned were erected by one Razullah Khan, son of Nawab Mukarrab Khan, a Hazim in the service of the Emperor Akbar. The "Khadims" of the Dargah still hold from Government a grant of land yielding R. 1,000 a year. They originally received R. 1,950 a year, but the income was reduced in 1858 in consequence of its having been discovered that a claim had been prounced against the British Government in 1857 at this place.

The town is of great antiquity, dating back to the period of the war between the Pandavas and the Kauravas, when it formed one of the well known five "pats" or "prasthas" demanded by Yudhishthir from Duryodhana as the price of peace. In modern times the plains of Panipat have often formed the scene of decisive battles, which sealed the fate of Upper India. (See paras. 43, 44, and 49). In the first battle of Panipat Ibrahim Lodi fell, and an inscribed plinth has been erected in his memory by the District Committee, just outside the octagonal tower of a garden wall which is still standing. When, however, the Grand Trunk Road was made, the Road Department destroyed the tomb (see General Cunningham), and now an insignificant masonry platform with a commemorative inscription, is all that stands in the name of the Emperor. The old tomb used to form a place of pilgrimage for the people of Gwalior, since the last Rajah of the old Gwalior dynasty fell in the same battle.

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Town of Panipat

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The city is built upon a small promontory raised which the old bed of the Jumna River, and is well raised on the accumulation of centuries, the old fort in particular commanding the country for a considerable distance. The town is surrounded in trees, and the white buildings shining through them present a very pleasing appearance as you approach it. Panipat must in old times have been of much greater size than it now is, and Macpherson describes it as the largest city, except Delhi, which he saw in northern India. Ruins of old houses extend to a considerable distance round the town, and many mosques, shrines, and gardens of very considerable pretensions still existing, but now in bad disrepair, tell of former importance. Many of the buildings possess considerable historical interest. An old Indian gun, some 8 feet long, made of bars of iron bound together by iron hoops, and with the name of *Qazi Shihab* or fort-breaker cast on it, stood in the fort till after the mutiny, when it was destroyed, and the gun thrown over the parapet. It has lately been moved to Delhi. The inhabitants are Ahalis, Rajputs, Pathans, Bajrapias, Rayahs, and the ordinary city classes.

The city of Panipat used to be comparatively healthy, till, in 1852, a cut called the *Bea'at* was made to drain the swamp at the junction of the Dughi and Hissar canals. This assisted by the Grand Trunk Road held up the Burhi drainage in a loop of the Khadir, just as the canal at Karyal, till the banks broke, and the water poured down the Burhi Nulli, which would ordinarily have carried it off harmlessly, but which had silted up to a great degree since the cut stopped the regular flow of drainage on to the city of Panipat. The sickness so caused was so great that in 1854 the headquarters of district were moved from Panipat to Karyal on this ground. Rice cultivation was then prohibited in the neighbourhood of the town, but the prohibition is no longer in force. Drainage improvements recently carried out by the Irrigation Department will probably result in a great reduction of disease. The chief families have already been described in Chapter III, Section V. Mr. Luberton thus describes the town population:—

"The people of Panipat are proverbially closed with those of Etawah and of Jagdishpur bearing not the highest of characters—I think that taken as a whole, they perhaps deserve their reputation. They are also all more or less educated men—they have the means to hold their land revenue-free, so that they are never wholly without means; but they are too *shy* of fortifying themselves, while the body of landowners has outgrown the capacity of the land to support their herds in comfort. Of course there are unashamed individuals who earn an honest living by a species of thievery and very mean whose character for probity is unimpeachable, for many of whom I have the highest personal respect. But there is a very large multitude indeed who have attained the most enormous wealth in chicanery, and their nearest female relatives, all of whom are strictly veiled, and almost all of whom possess land under

The Muhammadan law of inheritance afford them a wide field for its practice without stigma, which they take advantage of to the full. Their love of speculation, and the tendency to illegal ownership which marks the race, have rendered their tenures still more extrinsically complicated; and in Banias power of alienating, etc., or by a couple of friends, and purporting to dispose of the building in the name of the husband and other property of his wife, sister, or daughter, becomes the basis of every curious procedure. Indeed I should add that the above description is for the town of the Rajputs, that is, the other classes of inhabitants; and it especially applicable to the Kafar Rajputs, who, culturing themselves and their children through their sons, have generally one post continuation. But the typical Panipat mukar, with a portion of great length and irregularity, and displaying great wealth in fields of subsidence, wholly different to the native at home, with a small tree library of paper and pen in his pocket, and who goes out to every high bank and hollow in search of a hideout of which the form is a circle carefully described round the point in ellipses, is not a pleasant man.

The opening of the railway on the opposite side of the Jumna somewhat prejudiced the commercial position of Panipat, having attracted from it much of the commerce formerly passing along the Grand Trunk Road. But the new Delhi-Kalka Railway passes beside the town. The municipal city of Panipat was first constituted in 1857. It was reconstituted in 1884 and is now a municipality of the 2nd class. The corporation consists of five nominated and eleven elected members, from whom a president and vice-president are chosen by election. The income (table XI.V) is wholly derived from octroi levied on the value of almost all goods brought within the municipal limits for the consumption of its inhabitants. The next important occupation after agriculture is that of trade and banking. There is little trade with towns at a distance. What there is, is chiefly local trade and banking. The manufacture of copper vessels for export is of some importance. There are several large establishments for the manufacture of glass for ornamenting women's dress. The only other manufacture, other than those carried on in almost every village, are pottery and the making of silver beads (in imitation of pearls).

The glass manufacture is of some interest. The glass is blown into large globes, and into these, while still hot, some amalgam is poured and the globes turned about, then receiving an external coating of quick-silver. They are then broken up into small pieces, which are used as ornaments, both by women for their dresses, and for the decoration of the walls of rooms.

The public buildings in this town are the police station, the school, and the Municipal Committee room. The latter stand on the top of the old fort mound. Beside these is the church. There are a dispensary, a post office, and a large mosque. The *Makhdum* building and a small red bungalow are situated about a quarter of a mile north, and the civil station about a mile to the west. There

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Town of Pampat.

is also a large *palkha* tank to the north of the city. It was built by Matho Das Bawa in the time of Emperor Muhammad Shah.

Number of houses then.	Year Census	Present	Then.	Present.
Whole town ..	1861 1881	29,716 21,332	22,545 17,681	16,127 12,291
Municipal limits	1881 1872 1861	20,771 24,600 20,281		

TOWN OR VILLAGE.	POPULATION.	
	1881	1861
Pampat town Kotwala Bidiyan Amritnagar	26,272 22 22 100	22,572 22 22

The figures show that they were excluded from that of 1861, as also was Bidiyan though lying within municipal limits. The census of the town itself was confined to the area within the octroi barrier.

The annual birth and death-rates per mille of population since 1881 are given below, the basis of calculation being in every case the figures of the most recent census.—

Period.	PER MILLE.										AVERAGE
	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	
Birth rate.	46	47	49	44	39	37	46	31	37	37	41
Death rate.	21	22	23	23	20	24	20	23	22	22	22

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Town of Raithal

359. Raithal is a municipal town and administrative headquarters of a tehsil of the same name. It lies in latitude $29^{\circ} 48' 7''$ north, longitude $76^{\circ} 25' 26''$ east, and has a population of 14,754 souls, consisting of 8,697 Hindus, 171 Sikhs, 194 Jains, and 5,862 Mussulmans. It is picturesquely situated on the bank of an extensive artificial lake or moat, called the Bidki tank, with numerous bathing places and flights of steps. A high wall, partly *palkha* and partly of mud, encloses the opposite side of the town. It has eight gateways, of which the Karmal gate to the east, the Koortuk and Suraj Kaud gates to the north, and Easni gate to the west, are the principal ones. Most of the streets are well paved or metalled but are nearly all narrow and crooked. The town lands are very extensive and are divided into six patti, each constituting a separate

1875, and 1881 is shown in the margin. The difficulty of comparing the results of these 3 enumerations noted in the case of Kartial exists also in regards Pampat but the details in the margin throw some light on the matter. It would appear from information supplied by the Deputy Commissioner that Norwala and Amritnagar were included in the census of 1881. The above figures show that they were excluded from that of 1861, as also was Bidiyan though lying within municipal limits. The census of the town itself was confined to the area within the octroi barrier.

The annual birth and death-rates per mille of population since 1881 are given below, the basis of calculation being in every case the figures of the most recent census.—

estate, but leaving the town as their common abode. The principal buildings of antiquarian interest are as under :—

1.—Tomb of Sheikh Shahab-ad-din Balkhi at the Sivri gate. This prince is said to have come from Balkh to Hindustan in 673 Hijra; he was slain in battle at Kaithal; his grandson built this tomb to his memory; the pillars and cupola are entirely of stone; the inscription is in Arabic on the cupola; the tomb was removed from the tomb by one of the Bhais of Kaithal.

2. Mausoleum of Sheikh Tayyab—Built by himself in the time of the Emperor Akbar Faiz-ad-din; the cupola is coated with enamel.

3. Tomb of Shah Vilayat.—It was built in the reign of the Ghuris. Shah Vilayat's father built the tomb.

4. Tomb of Shah Kamal.—Fakir Shah Kamal is said to have come from Baghdad 200 years ago; the tomb was erected by his descendants; twice every year a fair is held at the spot; 24 acres of land valued at Rs. 15 have been released in perpetuity for the support of the shrine.

5. Astha Anjali, mother of Hanuman.—The temple of Astha, the mother of Hanuman, was lately repaired by the Hindus of Kaithal.

The town is clean and picturesque.—The ruins of the old fort, or residence, of the Kaithal family stand out prominently on the high bank of the Bularka tank, which seems to have been partly made by the excavation of bricks for building the town and fort, and partly hewed to act as a moat for defence. The large house built by Bhai Ude Singh after the model of Sir David Ochterlony's house at Karnal also overlooks the lake.

This town is said to have been founded by the mythical hero Yudhishthira, and is connected by tradition with the monkey-god Hanuman. It bears in Sanskrit the name of Kausthala, or the abode of monkeys—a name which still applies. The town was re-erected, and a fort built under Akbar. In 1707 it fell into the hands of the Sikh chieftain, Bhai Dera Singh, whose descendant, the Bhai of Kaithal ranked amongst the most important and powerful Ch-Sethi chiefs. Their territories belonged to the British Government in 1843. For a few years Kaithal formed the head-quarters of a separate district; but in 1849 it was absorbed into the District of Thanesar, and was merged in 1862 to that of Karnal. (parn. 72).

The municipality of Kaithal was first constituted in 1867. It was reconstituted in 1884 and is now a municipality of the 2nd Class. The committee consists of five nominated and nine elected members, from whom a president and vice-president are chosen by election. Table No. XLV shows the income of the municipality for the last few years. It is chiefly derived from

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Town of Kandol.

octroi levied on the value of almost all goods brought within the municipal limits for the consumption or use of its inhabitants. A sleepy trade is carried on in grass, oil ammonium, saltpeter, horned cattle, sheep, and country blankets. The refinement of saltpeter is brought to considerable perfection. Lacquer ornaments and toys are also made in some numbers both in Kandol and in some of the surrounding villages. The public buildings include a court-house, a tahasil, a police station, a dispensary, and a school. There are many large tanks round the city, of which the Bidi-kher, the Shikar-kund, and the So-rajkund are the principal ones. The population as ascertained at the enumerations of 1861, 1872, and 1881 is shown in the margin.

Modes of enumeration.	Year of Census.	B.C.	C.E.	Males	Females
Kandol.	1861	1,200	1,200	720	720
Municipal limits.	1872 1881	1,000 1,000	1,000 1,000	— 1	— 1

The small falling off in population is simply accounted for by the drought which preceded the census, and by the fever epidemic of 1878.

The annual birth and death-rates per millo of population since 1881 are given below, the basis of calculation being in every case the figures of the most recent census:—

Period	1881	1882	1883	1884	1885	1886	1887	1888	1889	Average
Birth rate	21	21	21	21	21	21	21	21	21	21
Death rate	20	21	21	21	21	21	21	21	21	21

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

TOWN OF SODA.

(360.) Soda is a small town, or rather a large village of 5,717 inhabitants, situated in the valley of the Sarsuti, about 6 miles north of Kandol. The town itself is an unpretentious collection of native houses without a wall or any building of importance. It has a school. Its lands include an enormous hollow in which rice is extensively grown with the aid of the flood-waters of the Sarsuti. On the fringes are the broken piers of an old bridge and the abandoned village site of Patal, where ancient bricks and Indian-Sieyan coins are found. The population as ascertained at the enumerations of 1861 and 1872 is shown in the margin.

Year of Census.	B.C.	C.E.	Males	Females
1861	4,200	4,200	2,200	2,200

The decrease in population is attributed by the Deputy Commissioner to the years of drought which preceded the census of 1871, and to the fever epidemics of 1870.

361. Pundri is a small town in latitude $29^{\circ} 45' 30''$ north, longitude $76^{\circ} 50' 15''$ east. It has a population of 4,977 souls, consisting of 3,538 Hindus, 1,630 Mussulmans, and 1 other. It is situated on the bank of an extensive tank known as the Pundri tank, which gives its name to the town, and which nearly half surrounds it with bathing places and flights of steps. Pundri was in old day one of the strongholds of the Pundri Rajput (para. 334). The town is enclosed by a mud wall, and has four gates, of which the Pundrik gate is to the north, the Kaithal gate to the west, the Pati gate to the south, and the Habri gate to the east. Nearly all the streets are paved. There are many large private buildings, and a good court built by a banker. The public buildings are a jail and police station. The Municipal Committee has been established. The bankers generally have their firms at Solan cantonment. The Sardars of Pundri are a well known, but decayed family. The chief man of the family is Amarnullah, or Hakim, who is in receipt of an income of Rs. 50. The population was ascertained

Family of enumeration.	Year of Census.	Persons	Males	Females	at the enumerations of 1868, 1875, and 1881
Whole town	{ 1868 1875 1881	4,977 3,538 3,630	2,680 2,221 2,699	2,301 1,630 1,630	is shown in the margin, but, as noted in the case of Karnal, the figures may not all relate to
Municipal limits	{ 1868 1875 1881	4,718 3,133 3,251			

exactly the same areas.

362. Pohawa has already been noticed in para. 37. It is an exceedingly unhealthy place, the great depression to the south of the town becoming a lake in the rains. It had a population of 4727 in 1855. The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown below.

Family of enumeration.	Year of Census.	Persons	Males	Females
Whole town	{ 1868 1875 1881	4,727 3,133 3,251	2,693 2,084 2,164	2,034 1,632 1,632
Municipal limits	{ 1868 1875 1881	4,648 3,048 3,141	2,673 2,048 2,048	2,075 1,600 1,600

Chapter VI.
**Towns and
 Municipalities.**

Tirauri.

The Municipal Committee has been abolished. Pahowra is a noted place of pilgrimage. A large fair is held yearly for bathing in the Sarusti, the persons attending being usually from 20,000 to 25,000.

363. Tirauri, though not classed as a town, is a place of some historical interest. Born in 1191 the invading army of Muhammad bin Tariq was defeated by the united Hindu armies under Prithvi-Raj, the Chauhan King of Delhi (para 39). Here Prince Asim, son of Aurangzeb (afterwards for a short time Asim Shah) was born. In memory of him the place was named Azimabad, and is still so called by many Mosalmans. A wall round the town, a mosque, and a tank, said to have been the work of Aurangzeb, are still in existence. The old highway ran through Tirauri, and there is a well preserved specimen of the old royal *durbar* here. This building appears to have been used by the Sikhs as a fort. It is now the property of Nawab of Kunjaura and is ruined and neglected. Tirauri is one of the stations on the new Delhi-Kalka Railway.

APPENDIX A.

Appendix A.
Growth of irriga-
tion from
W. J. Canal.

*Growth of irrigation from the Western Jumna Canal, and effect
of early appearance and scarcity.*

The figures below show the irrigation from the whole of the Western Jumna Canal from 1818 to 1840, no separate figures being available for the district. The Delhi branch was opened in 1820, but the small supply of water caused by it may be deducted from the fact that till 1826, at least, no bridges were needed, as a loaded village cart could be driven through it without inconvenience. In 1828 the Rohilkund branch was opened as far as Gorakhpur, but the irrigation from both these canals, though steadily increasing up to 1838, was still very limited, and in 1838 the small use made of the water was attributed to "the uncertainty of the supply, the insufficiency of the outlets permitted for each village, and the high rates charged" etc., while 13.2 per acre.

Early Irrigation from Western Jumna Canal.

Year.	Amount of water rate in rupees	Area irrigated as per statement of Act 11-2 [per acre]	Remarks
1818-20	—	876	Main line & Delhi branch opened.
1820-21	—	14,449	241.948
1821-22	—	24,618	23.573
1822-23	—	23,158	23.074
1823-24	—	24,010	21.688
1824-25	—	26,647	25.181
1825-26	—	48,371	60.760
1826-27	—	82,978	14.866
1827-28	—	51,161	16.313
1828-29	—	62,549	21.582
1829-30	—	57,273	16.193
1830-31	—	87,700	82.144
1831-32	—	31,018	78.190
1832-33	—	62,965	91.000
1833-34	—	1,94,788	2.13.277
1834-35	—	1,31,805	1.03.475
1835-36	—	1,10,943	1.05.454
1836-37	—	1,53,177	1.18.505
1837-38	—	97,276	2.10.214
1838-39	—	1,09,316	2.11.741
1839-40	—	82,141	2.11.611
1840-41	—	216,818	2.16.687
1841-42	—	2,52,009	2.16.679
1842-43	—	2,70,400	2.01.372

The terrible famine of 1833-34 gave a new turn to the irrigation question. This famine fell with perhaps even greater gravity upon the Bangar than upon the Khadir; for the latter had, while the people of the latter had at least their wells, so

Appendix A.
Growth of irrigation.

long as the cattle had strength to work them. The distress, feebly described at page 26, paralysed for a whole year the agriculture of the tract. But this very distress was the means of securing at one bound an advance in prosperity which might otherwise have taken many years to attain. The canal presented at least a possibility of irrigation; and its officers had no longer reason to complain that the water they proffered was not received. Irrigating villages enlarged and multiplied their channels; numerous other villages which had never before irrigated dug canals for themselves, often many miles in length; and the area irrigated was limited only by the means of supply, instead of, as heretofore, by the demand. Tremendous efforts were made to increase that supply; and the irrigation of 1833-34 was 2½ times that of 1832-33, while the construction of the Batala branch extended the water to a part of the tract which it had previously been unable to reach. The means of irrigation, once called into existence by the pressure of a water-famine, were still available when the urgent necessity had passed away; and the irrigation never again fell to its former level. The failure of the rains in 1836-37 raised it above the figures of 1832-33, and the continuance of the drought caused the irrigation in 1837-38 to rise to what Captain Baker, the Superintendent of Canals, declared in 1841 to be the maximum capacity of the channels as they then stood. But the supply was still uncertain, and apt to fail when most needed. The whole system of canals and their subsidiary channels had been called on to perform a task far in excess of that for which they had been designed; the call had been urgent, and the necessary adaptations had been made as best they could, and on the spur of the moment. The arrangements at the heads for supplying the water from the river were also very imperfect; and too often the canal broke down just when there was the greatest need for its services.

YEAR.	ACRES.
1836	50,000
1837	60,000
1838	120,000
1839	65,000
1840	75,000
1841	80,000
1842	80,000
1843	80,000

The table on the next page shows the irrigation between 1856 and 1870. The figures refer only to the portion of the district settled by Mr. Daburon; but the canal irrigation excluded is of negligible importance. Since that date the area charged with water-rate in the Kurnool District has been as shown in the margin.

Defects of the canal system.

When the canal was re-opened, every facility was offered to such villages as would make use of the water. In most cases an old impeded water-course still existed, which they were allowed to clear out and use, and when there was none, they simply made themselves a channel straight from the nearest point on the canal from which water would flow to their fields. As the demand for water has extended, certain large distributaries have been constructed, which have absorbed many of the early channels, while others have been deepened, enlarged, and extended. The main canals, too, have been deepened and their banks raised, till the entire

Karnal District

1950年1月 于 上海植物园

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Appendix A.

Growth of irrigation

Appendix A.**Growth of irrigation.****Defects of the canal system.**

touches the crown of the arches in the bridges. Most of these extensions were made under pressure of urgent need, and therefore without interrupting the supply, and too haphazardly to admit of due consideration being given to the size, or of the best possible scheme being selected. Thus, while the faulty alignment of the old canal and channels is still followed, their carrying capacity has been so increased that in most parts the surface level of the water, and in some places the bed of the canal, is above the surrounding country, and the water is thus forced into the sub-soil by hydraulic pressure.* A great deal of the canal is, of course, in embankment; and in many of the secondary channels silt clearances, often dating from the time of the Moghuls, have raised the bank to a height of 12 and 15 feet; and this system of embankments has been constructed with sole reference to the natural drainage that it intersects all the drainage lines of the tract, and throws back the surface water over the surrounding country. This is especially the case in Karnal Raigur, where the canal runs in embankment below the Nardak step in the Illegur and the Khadir bank in the Khadir, and holds up all the drainage which runs southward from the highlands. The highland distributaries which cross the lowland to reach the villages on the crown of the slopes pass so many drains above which huge swamps form, while the loops of the old channel in which the canal used to run, and which are cut off by it now that it has been straightened, act as breeding beds for crocodiles and malaria.

Excessive irrigation practised by the people.

But if the defects of the means of supply have given rise to evils, the pernicious system of irrigation practised by the people, coupled with its rapid extension has increased those evils a hundred fold. While only 2 per cent. of the central canal tract is permanently under water, 40 per cent. of the whole area and 60 per cent. of the cultivated area is irrigated, much of it twice in the year, much of it for rice cultivation, and almost all of it every year without intermission. Now canal irrigation is not like well irrigation. When every drop of water used is represented by additional labour to man and beast, the greatest economy is exercised, not so when a stroke of the spade is sufficient to set flowing an unlimited supply. In the former case the cultivator divides his fields into small beds which are irrigated successively, and practically answers the purpose of terrace agriculture.

* The total irrigation from Western Jumna Canal at various periods is shown below —

Years	Acre.
1820	100
1825	20,180
1830	70,480
1840	221,541
1850	490,612
1875	507,574

The average depth of water laid at Kurnial bedge at various periods is as follows —

Years	Feet.
1827	6'84
1830	6'20
1835	6'07
1850	9'41
1875	10'10

And the bedge from which these depths are measured has been raised considerably during the period over which these figures extend.

ing the water, not only by reducing the depth needed, but also by confining the area of already saturated ground over which the water has to pass. On the canal, on the other hand, if a field is six inches lower at one end than at the other, a seven-inch bank is made round it, and the whole field put under an average of four inches of water, in order to get one inch at the top; each spot in the field, after receiving its water, is still passed over by the water which goes to spots beyond it; and if a leak occurs in the channel, or if a bullock breaks down the side, the water is allowed to run to waste for hours before any trouble is taken to remedy the evil. The loss of the canal water for 1874-75 was 74 acres in the autumn, and 69 in the spring per cubic foot of supply. Supposing that the loss by evaporation and waste is counterbalanced by the fact that much of this land is watered in both seasons, this represents a supply of 82 inches in the year. A well working 13 hours a day for 150 days in the spring and 89 days in the autumn, and watering 15 acres, would have to supply at this rate 6,067 gallons per hour. Moreover, the well water is itself drawn from the subsalt supply, and all that is lost by evaporation during the process of irrigation is as much lost in that supply; while in canal irrigation, all that is not so lost, is so much added to that supply.

The result is that the whole country is waterlogged by the canal water being forced into it from below, while the cultivator drowns it from above. And when the rain comes in tropical abundance, instead of finding a thirsty soil ready to drink up the greater part, it falls upon a country already saturated with water, and the whole volume is thrown into shallow drainage lines with an almost imperceptible slope. These again, being barred at intervals by high banks crossing them at right angles, silt up, and the water is thrown back and covers the country for miles. Thus, when the rainfall has been unusually heavy for several years in succession, there are hundreds of acres in which the autumn crop, if it can be sown at all, is almost or altogether drowned; while such little land as appears above the water soon enough to plough for the spring crop is so marshy that the field is barely worth the trouble of gathering. And there is a still larger area in which, after heavy rain, the water stands even inches deep for three or four days at a time, to the great injury of the crop. No means exist of carrying off the water, for, as the Chief Engineer reported in 1867, the level of the water in the canal can very seldom be reduced in the rainy season, just when the drainage of the swamps is most needed; or even if the supply at the heads be shut off, the quantity of water draining into the channel above Karnal is sufficient and sometimes more than sufficient, to fill the channel up and below that point.

Nor is it only swampage that results from the causes above mentioned; for if it were, the higher land might be cultivated as the lower became unculturable. For countless ages the rain falling upon the soil has washed down with it more or less of its

Appendix A. Growth of Irrigation.

*Extracts from
presented by the
people.*

*Resulting saline
affluence.*

Appendix A.
Growth of irrigation.

Bursting saline efflorescence

saltine constituents into the spring water below. That water now has been raised so within such a short distance of the surface that it can rise to it by capillary attraction, carrying with it salts which have been thus accumulated. As fast as it reaches the surface, wherever the cultivation or the shade of a thick tree does not interfere with radiation and evaporation, the fierce heat of an Indian sun concentrates the solution. Where the water is so near the surface, and the surface moisture so great that diffusion can take place, and the water thus made heavier can return by the way it came, no great harm is done. But over most of the area this is not the case, and the water evaporating leaves the salt deposited, and this process, repeated year after year, eventually covers the soil with a fluorescent layer of alkaline salts, lying like fresh-fallen snow, often three or four inches thick. The first rain that falls is not heavy enough to reach the main drainage, and sinking in *in situ* carries with it the salts; thus preserving them by a sort of occlusion from the mechanical action of heavy rain, to reappear when the next sunny day resumes the process of evaporation.*

The salts lie thick round the edges of the cultivation, and notwithstanding the bank made to keep them out, are carried over the boundary by the wind and rain and deposited in the hollows of the on-lying fields. When once cultivation is thus destroyed, the capillary process immediately begins, and thus the evil is gradually eating its way from outside into the still fertile fields every inch gained being made the stepping-stone for further incroachment. The saline water and such grass as is able to spring up in the salt-impregnated land give the cattle diarrhoea and glandular affection, dysentery, and eventually kill them; while the large area which is each year covered with water and aquatic plants in the rainy season, and dried up by the sun during the remainder of the year, exhales from its putrifying vegetation a malaria which poisons the blood of the villagers, renders them impotent, and kills them by fever and spleen disease.

Effects upon health and prosperity.

The epidemic of 1841-43, which assumed especial virulence in the canal tract, and caused the abandonment of Kasauli as a cantonment, led to the appointment of a Committee by the Supreme Government to investigate the matter. Their report was published at Agra in 1847. In 1867 Surgeon-Major Adam Taylor was appointed to make a further inquiry; and his report was published as Selection No. VI of 1870 from Records of Government Punjab. Some of the figures of both reports are summarised on the next page.

Dr. Taylor shows that 60 to 80 per cent. of the inhabitants in many of the Bangar villages were suffering from enlarged

* An immense amount of information and discussion on the subject of *cas*, its origin, formation, effects, and cure, will be found in the report of the Aligarh Deob Committee of 1878, in Selections No. XLII 1881 from Government of India Correspondence, P. W. D., in the printed correspondence with Board of Revenue, S. W. P., No. 212 of 21st October 1874, and Government, S. W. P., Executive Department, Index No. 41-83 of May 1877.

spleen and yearly attacks of fever. He speaks of the "hunger and depression of mind, and situated and shrivelled forms of the inhabitants of the villages in close proximity" to the swamps; and of the absence of "the strength to repair damages or to preserve comfort." The heavy rains of 1871-72 rendered the sanitary condition of the canal villages worse than ever.

Appendix A.
Growth of irrigation.
*Effects upon health
and prosperity.*

Statistics of Disease on Western Jumna Canal.

Locality.	Distance from Canal	PERCENTAGE SUFFERED IN EACH CLASS			PERCENTAGE SUFFERED IN THE THREE YEARS			
		Below water level	Between water level and surface	Above surface	1854	1855	1856	
REPORT OF 1857.								
WESTERN JUMNA CANAL.								
Dabbi Branch. . . .	Within just a mile	13	68	11	45	41		
	More than a mile	15	49	11	49	49		
Bhatk Branch	Within half a mile	20	41	17	39	27		
	More than a mile	18	29	12	31	27		
Batana Branch	More than half a mile	192	16	11	38	29		
NON CANAL VILLAGES.								
Dabbi territory	—	48	11	37	29	11		
High Dugh	—	24	9	37	31	26		
REPORT OF 1858.								
Dabbi Branch	Within half a mile	8	61	10	29	63		
	More than a mile	11	44	10	36	36		
Bhatk Branch	Within half a mile	0	41	30	24	31		
	More than a mile	2	47	11	34	34		
Batana Branch	More than half a mile	15	7	30	26	22		
Between the canals	—	9	67	11	41	48		

In 1856 the people of many of the worst villages abandoned their homes and fled to Jumna; and Mr. Sherer was deputed to inspect the tract. His admirable report was submitted in 1857, and is printed as part of Sessions No. XLII (1854) from Government of India Correspondence, P. W. D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the evil had not nearly reached its limits, and must necessarily continue to spread almost indefinitely.

From a sanitary point of view he found a state of things existing "very much worse than that described by the Committee of 1847." He speaks of the miserable disease engendered by the tainted water and malarious exhalations of the soil; of

Appendix A
Growth of irriga-
tion

Effects upon health
 and prosperity.

Present condition.

the spectacle of sick women and diseased children crouching among the ruins of their houses, for in many cases the rulers had been sold, of ingugal cultivators wading in the swamps, and watching their sickly crops, or attempting to pasture their lousy cattle on the unwholesome grass.

In the beginning of 1877 Mr. Thibaut, reporting on the management of the canal tract, wrote as follows:—

The villages of the tract may be described under three heads. Those which, well removed above the influence of the *reb*, reap the benefits of the canal without being subject to its injuries, are evidently prosperous.

" Those villages, which, though out of the lines of leavenage and swamp, are low so that their pastures are covered by *reb*, are far less prosperous. Their cultivation has decreased, and rents decrease still further; the fertility of what remains has diminished; expansion is impossible; what little grass there is for the cattle weakens and kills them and the water is bad for both man and beast. Where the village is large and well off, they have saved the time of their cultivation from any very great deterioration, and the incropts of *reb* are chiefly confined to the edges. But where the community is poor, the whole cultivation has suffered, and the *reb* advances with accelerating impetus. It is, then, most important to assess fairly this class of villages, so that they may not be hampered in their struggle with the evil."

" As for the villages which lie in the denitrage lines, or have low land near the canal, their state is pitiful indeed. Their only cultivation was, as is the case throughout the district, in the lowest parts of their area; and while the higher lands were becoming covered with *reb*, the stiff soil of the *reb* helped to preserve the lower from injury. But as the water-level rose, and swamps and seepings began to extend, they found their cultivation under water, while, turning too late to their high lands, they perceived that they had become barren; and now they live a semi-amphibious life, their houses crumbling with the dung, crocodiles in their village ponds, the water in the wells so near that, as they say, they can draw water without a string; their sickly cattle obliged to leave the village during the rains, and they themselves suffering from all complications of maladies due to either unbroken regularity. Year by year they now live with the certainty that only an exceptionally dry season can save it from being drowned, and that much of it must even then be injured by too much water; year by year they watch the fields as they dry up, and rapidly passing a plough through the tenacious mud, sow their wheat and barley in the open furrows till the very last moment when there is hope of their germinating, or even sowing the seed on the unbroke mud, and plough over it when the ground is a little drier; and this in the knowledge that some of it will fail, that heavy rain will drown more of it, and that most of what does come up will barely repay the labour spent on it. Much of their land is sour and cold from being permanently saturated with water that, though not under water, it cannot be cultivated; some of it perhaps is separated from their village by the canal, the usual bridge being some miles off, and it being forbidden to take cattle to it along the bank. In a year of drought these villages no doubt reap

splendid crops, but years of drought are fortunately the exception, and I think that the very largest allowance should be made for the circumstances of estates so situated.

Appendix A.
Growth of irri-
gation.

"My experience of the tract was in 1877 limited to a probably exceptional series of seasons of full excessive rainfall. Since then I have seen them during a series of, I hope, exceptionally scanty rains, and I think I exaggerated the average condition of the swampy villages. It would be difficult to exaggerate it as it is in really wet years."

Present condi-
tion.

General Strachey did not speak one whit too strongly, when he said in 1867 :—

"The portion of the canal near Karnal is a disgrace to our administration, and has been for years past. It creates most pestilential swamp which must be got rid of, unless we are content to perpetuate this abominable nuisance, which has been talked about for the last 25 years, during which period no serious attempt has been made to abate it. For my own part, I distinctly reject all share in any counsel which tends to delay in meeting this most existing evil. I must fully admit the great importance of doing what has to be done with the most scrupulous regard to economy, and I am ready to sacrifice all thought of elegance or congruity for the purpose of avoiding any considerable outlay, which is really not needed to secure efficiency. But it is impossible for me to affirm, with too great positiveness, the moral obligation which rests on our Government to put an end, with all possible speed, to the dismally condition of the large tracts of land along the Western Jumna Canal which are converted into swamps of the most pestilential nature, not only destruction to the health and life of the population, but occupying in a manner far worse than useless some of what might be the very best lands. It will be necessary to do something, and what is necessary should not be delayed till other works, which have no relation to this part of the scheme, are completed."

The new canal is now nearly complete; the re-alignment of the distributaries has already done much good, and the completion of the drainage scheme will doubtless go far to cure the evil of swamps. But the effluvium will not be so easily got rid of, and it will probably be many years before this scourge is very materially decreased.

The above was written by Mr. Hibberton eight or nine years ago. The following note by Mr. Higham, Superintendent Engineer, Sir-Sutlej Circle, shows what has been done to remedy the evils to which Mr. Hibberton referred.

The new main line of the Western Jumna Canal, extending from Indri to Mauk, was completed in 1883, and in August of that year the old canal between Indri and Itai was finally closed, and relegated to its proper position as a drainage line. The re-alignment of the distributaries has been now completed, and the obstructions to the free passage of the drainage channel by the old watercourses have been finally removed. Lastly the Karnal District has been provided with three main or arterial drains, two of which have been in full working order since 1887,

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though the third is not yet fully developed. The first of these, known as Main Drain No. I, comprises a length of the old canal from Budha Khera to Khurakali. The outfall channel leaves the old canal opposite Kaonai in a north-easterly direction falling into the Budha Khera Branch of the Western Jumna Canal at Kitel, and thence passing onwards into the Jumna. Three minor tributary drains discharging into this main drain water the Karnal City and neighbourhood and the Basila Jhil, and complete the drainage of the great hight of the Khadis, lying between the Bangar ridge and the old canal, the whole condition of which has very materially improved since its construction. Main drain No. II comprises a further length of the old canal from Khurakali to Rei, which drains the adjacent Bangar Villages. From Kitam the drain is connected by an artificial cut with the old Rei Escarp, which has been enlarged and remodelled as far as Bobail, four miles to the east of the Grand Trunk Road. From Bobail, the new drain leaves the line of the Rei Escarp by a sharp turn to the south and eventually discharges into an old nullah below Chhipur, and so on into the Jumna at Khaskipur, 12 miles below Panipat. This drain passes into the Khadis at Mahomedpur, and receives the waters of the Ganda Nullah, or natural main line of the Khadis immediately above the point of crossing the Grand Trunk Road. Several other inlets are provided along its course both in the Bangar and Khadis for the drainage of adjacent lands, while at its lower end the spoil on the left or eastern bank efficiently protects several villages from the overspill of the Jumna.

The third artificial drain, known as Main drain No. III, or the Nai Nullah, will drain the lands to the west of the new main line and New Hami Branch until it passes under the latter at Antu, a short distance above Sufidan, in Jind territory. Below this point it waters the tract lying between the New Dohri Branch and the old Rohtak Canal, and constitutes a natural drainage line, which passes into the Rohtak District at Chichiana (when it is locally known as the Loh Nullah) running in a westerly direction through Gohain and to the west of Rohtak, with an ultimate outfall into the lakes north of Jhajjar, which communicate with the great Nujafgarhi Jhil in the South of the Dholi District. Until recently however the outfall below Gohain was completely closed, and the efficiency of the Nai Nullah as a drainage line was limited by the capacity of the Rohtak Jhil above that town. By the completion of Main Drain No. VIII below Gohain an efficient outfall has now been provided and the drainage of the upper part of the nullah and of a few subsidiary drainages alone remains to complete this third and important main drain, and with it the drainage scheme for the main irrigated portions of the Karnal District.

STATISTICAL TABLES
APPENDED TO THE
G A Z E T T E E R
OF THE
KARNAL DISTRICT.

(INDEX ON REVERSE).

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Table No. II, showing DEVELOPMENT.

1	2	3	4	5	6	7
Details	1855-56	1855-59	1863-64	1865-66	1873-74	1879-80
Population	617,307	...	621,821
Cultivated acres	6,45,150	6,73,366	6,80,219
Irrigated acres	2,42,945	2,43,953	2,43,760
Works (from Government works)	1,08,460	1,02,925	1,03,237
Agricultural Land Revenue, rupees	—	8,08,580	8,72,916	8,85,162
Revenue from land, rupees	6,82,739	8,70,061	8,97,327
Gross revenue, rupees	—	7,14,779	7,81,931	7,98,299
Number of tins	1,94,458	1,98,930	1,99,963
— stamp and goods	70,072	85,212	81,952
— metals	601	730	700
Miles of metallised roads	367	35	43
— unmetallised roads	367	154	225
— Railways	—	—	—
Police staff	602	635	624
Prisoners convicted	1,043	1,012	1,027	1,019
Civil suits,—number	...	1,629	1,864	2,050	2,028	2,012
— value in rupees	...	2,07,172	2,01,765	1,90,161	2,01,000	2,00,275
Municipalities,—number	—	5	5
— income in rupees	10	...	...	20,000	32,742	41,636
Hospitals,— number of	—	—	—
— patients	15,213	27,774	26,036
Schools,—number of	57	74	64
— scholars	1,817	2,149	2,001

Note.—These figures are taken from Tables Nos. I, III, VIII, XI, XV, XXI, XII, XLV, I, LX, and LXI of the Administration Report.

The area of the district has been enlarged since 1861. The population of the district as now constituted was 6,45,150 in 1861.

Table No. III, showing RAINFALL

2641—Two groups are taken from the south N.W. corner of

Karnal District J

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Table No. III A, showing RAINFALL at HEAD-QUARTERS

1 MONTHS.	2		3 MONTHS.	4		5 MONTHS.
	ANNUAL AVERAGES.			ANNUAL AVERAGES.		
	No. of rainy days in each month— 1877 to 1881.	Rainfall in inches of an inch in each month— 1877 to 1881.		No. of rainy days in each month— 1877 to 1881.	Rainfall in inches of an inch in each month— 1877 to 1881.	
January	2	11	September	—	87	—
February	2	13	October	—	3	—
March	3	12	November	—	—	—
April	1	0	December	—	—	—
May	3	17	1st October to 1st January	9	9	9
June	0	42	1st January to 1st April	7	26	26
July	11	92	1st April to 1st December,	22	241	241
August	8	53	Whole year	42	269	269

Note.—The figures are taken from Table No. XXIV of the Karnal Report, and from page 31 of the Tadur Report.

Table No. III B, showing RAINFALL at TAHSIL STATIONS

1 TAHSIL STATION.	2 AVERAGE RAIN IN INCHES OF AN INCH, FROM 1878-79 TO 1877-78.			
	3 1st October to 1st January.	4 1st January to 1st April.	5 1st April to 1st October.	6 Whole year.
Hinduj	—	5	27	218
Kotial	—	2	21	212

Note.—These figures are taken from pages 34, 37 of the Karnal Report.

Table No. V, showing the DISTRIBUTION of POPULATION

	1	2		3 District.	4 Urban areas.	5 Towns and villages.	6 Total number.
		7 District.	8 Towns and villages.				
Total Loparha taluk	—	—	—	—	1,200	402	4,304
Cultivated square miles	—	—	—	—	1,740	249	3,969
contaminable square miles	—	—	—	—	700	272	912
Rainfall above mean crop (average 1877 to 1881)	—	—	—	—	213	219	342
Total population	—	—	—	—	27,761	217,944	186,730
Urban population	—	—	—	—	16,091	21,994	38,085
Agricultural population	—	—	—	—	11,670	204,950	157,645
Total population per square mile	—	—	—	—	760	124	296
Agricultural population per square mile	—	—	—	—	321	104	162
Over 10,000 seats	—	—	—	—	—	—	—
4,000 to 10,000	—	—	—	—	—	—	—
2,000 to 4,000	—	—	—	—	18	1	2
1,000 to 2,000	—	—	—	—	32	10	10
Less than 1,000	—	—	—	—	131	16	86
Total	—	—	—	—	203	77	127
Others 200	—	—	—	—	203	23	220
Total	—	—	—	—	603	200	394
Occupied houses	—	9,000	—	—	10,611	1,244	1,091
Unoccupied houses	—	—	—	—	27,000	10,771	12,791
Occupied houses	—	—	—	—	1,271	1,071	1,264
Unoccupied houses	—	—	—	—	12,000	2,001	1,999
Resident families	—	—	—	—	22,362	2,211	2,211
Non-resident families	—	—	—	—	27,100	10,100	10,100

NOTE.—These figures are taken from Tables XIX, I, and XVII of the Census of India, 1881, for agricultural, commercial and non-resident families, which are taken from Tables No. I and XXVII of the Annual Statistical Report. They relate to the districts as constituted in 1881.

Table No. VI, showing MIGRATION.

Districts.	Inhabitants.	Emigrants.	Migrants per 1,000 of non-migrant.		Distribution of Immi- grants by Towns.				
			High Caste.	Low Caste.	Camp.	Rural	Urban		
Dolali	—	—	4,672	7,406	268	318	981	7,293	407
Hajay	—	—	—	1,806	2,047	916	621	1,002	1,423
Gurdaspur	—	—	10,611	7,245	273	534	1,552	1,013	—
Chandigarh	—	—	14,270	16,522	310	307	10,510	7,202	2,817
Sialkot District	—	—	26,381	20,004	308	319	1,611	2,394	21,883
N. W. P. and Qasim	—	—	30,746	24,000	455	428	18,206	10,702	1,573
Bhatinda	—	—	2,118	—	684	—	659	448	420

Note.—These figures are taken from Table No. XI of the Census of 1891, and relate to the districts as constituted at that year.

Table No. VII, showing RELIGION and SEX.

Religion.	Persons	Males	Females	Districts.			Villages	
				Earnal.	Pipluri.	Kallal.		
Purans	1,21,021	—	—	201,004	190,735	200,735	511,260	
Brahm	—	—	—	124,260	100,201	110,000	200,172	
Parsis	—	—	—	101,211	86,501	98,714	248,121	
Hindus	120,670	240,649	202,018	191,577	107,298	104,292	313,747	
Sikhs	—	4,001	4,001	2,004	212	2,229	7,744	
Jains	—	4,000	3,000	1,129	2,839	608	8,024	
Buddhists	—	—	—	—	—	—	—	
Moslems	—	—	—	—	—	—	—	
Christians	—	100,100	82,065	72,000	62,717	45,000	110,230	
Others and unspecified	—	—	—	—	—	—	—	
European & Eurasian Christians	—	—	—	—	—	—	—	
Semites	—	153,530	81,176	72,351	61,288	62,000	117,302	
Arabs	—	—	—	1,129	924	1,282	381	1,437
Wahabis	—	—	—	—	—	—	—	

Note.—These figures are taken from Tables Nos. III, III A, III B of the Census of 1891, and relate to the districts as constituted at that year.

Table No. VIII, showing LANGUAGES.

Language.	Districts.	Distribution by Towns.		
		Earnal.	Pipluri.	Kallal.
Hindustani	—	—	—	—
Bapli	—	—	—	—
Punjabi	—	—	—	—
Parsis	—	—	—	—
Pakistri	—	—	—	—
Kashmiri	—	—	—	—
Persian	—	—	—	—
English	—	—	—	—

Note.—These figures are taken from Table No. XI of the Census of 1891, and relate to the districts as constituted at that year.

Table No. IX, showing MAJOR CASTES and TRIBES.

Note.—These figures are taken from Table Xa, VII. A of the Bureau of the Census, and refer to the slaves as mentioned in the 1850 census.

Table No. IX A, showing MINOR CASTES and TRIBES.

Serial No. or Cross Reference VII A.	Date or Title.	Page No.	I		II		III	
			Minutes	Miles	Minutes	Miles	Minutes	Miles
18	Kilmer	22	0	0	0	0	1,720	865
27	Aker	—	—	—	—	—	1,427	614
33	Jordan	—	—	—	—	—	2,348	1,001
39	Frank, unknown name and unexpected	—	—	—	—	—	1,041	460
42	Binghal	—	—	—	—	—	1,152	500
43	Wright	—	—	—	—	—	1,277	564
44	Deppar	—	—	—	—	—	1,040	460
47	Marler	24	—	—	—	—	700	327
49	Burnet	—	—	—	—	—	1,206	562
52	Kaluj	—	—	—	—	—	173	81
61	Hercz	—	—	—	—	—	1,250	563
62	Dunn	—	—	—	—	—	1,309	588
63	Markel	—	—	—	—	—	1,547	700
73	Standl	—	—	—	—	—	1,266	563
75	H. Morris	—	—	—	—	—	627	281
81	Gandy	—	—	—	—	—	1,253	562
83	Kawell	—	—	—	—	—	740	337
88	Praga	—	—	—	—	—	913	416
91	—	—	—	—	—	—	1,000	450
97	Kazdik	—	—	—	—	—	737	340
98	Kayath	—	—	—	—	—	622	281
99	Levi	—	—	—	—	—	913	416
100	Neugom	—	—	—	—	—	913	416
101	Zorn	—	—	—	—	—	913	416
102	Wiel	—	—	—	—	—	877	397
103	Holmboe	—	—	—	—	—	2,723	1,222
104	Blomqvist	—	—	—	—	—	1,040	460
105	Holmboe	—	—	—	—	—	1,040	460
107	Leibnitz	—	—	—	—	—	1,267	563
108	Thorenson	—	—	—	—	—	1,040	460
109	Blomqvist	—	—	—	—	—	1,040	460
111	Holmboe	—	—	—	—	—	1,040	460
127	Leibnitz	—	—	—	—	—	1,130	515
128	Leibnitz	—	—	—	—	—	979	439

Note.—These figures are taken from Table No. VIII A of the Census of 1910, and refer to the districts as constituted at that time.

Table No. X, showing CIVIL CONDITION.

1 Actual Figures for religions	2 Distribution of sexes	3 Males	4 Females	5 Males	6 Females	7 Males	8 Females
		Males	Females	Males	Females	Males	Females
All religions	150,912	87,375	153,140	100,572	20,113	48,597
Hindus	114,144	61,901	112,473	70,495	20,082	46,612
Buddhists	2,293	1,145	1,912	1,833	303	254
Jains	1,000	625	1,137	1,126	273	406
Brahmins	—	—	—	—	—	—
Moslems	30,341	21,611	37,255	37,124	5,308	12,929
Christians	20	21	19	16	2	2
All ages	4,978	3,050	4,545	3,250	777	1,856
0-10	—	8,555	6,941	7,396	5,861	8	0
10-15	—	8,018	5,296	8,004	4,020	47	46
15-20	—	5,879	6,021	5,440	5,785	180	252
20-25	—	3,185	100	3,157	9,916	449	600
25-30	—	1,842	47	7,204	9,046	592	907
30-40	—	1,116	39	7,092	8,041	929	1,127
40-50	—	734	26	7,058	8,062	1,700	5,962
50-60	—	547	32	7,022	8,054	2,651	6,016
Over 60	—	640	21	5,379	1,769	4,061	8,107

NOTE.—These figures are taken from Table No. VI of the Census of 1881, and refer to the district as constituted in that year.

Table XI, showing BIRTHS and DEATHS.

1 Years	2 TOTAL BIRTHS REGISTERED.	3 Males	4 Females	5 Males	6 Females	7 Obolens.	8 Summ. Tens.	9 Per cent.	TOTAL DEATHS FROM	
									TOTAL DEATHS REGISTERED.	
		Males	Females	Persons	Males	Females	Persons	Obolens.	Obolens.	Persons
1877	—	—	—	—	7,275	3,690	12,941	—	254	6,516
1878	—	—	—	—	12,111	11,915	20,026	—	4,000	16,462
1879	—	—	—	—	10,006	10,213	20,222	1,000	2,000	20,047
1880	11,084	6,380	10,067	10,172	10,017	22,219	—	1	469	17,017
1881	12,253	11,995	26,286	12,502	8,788	21,091	125	208	14,000	—
1882	10,060	11,924	20,924	10,103	9,856	19,750	—	648	12,428	—
1883	14,374	12,220	27,590	10,106	9,810	18,514	—	2,406	9,077	—
1884	14,763	12,997	27,761	10,489	10,041	24,760	—	1	2,016	25,145
1885	12,010	10,992	22,986	11,220	11,172	24,002	162	272	18,404	—
1886	14,501	12,612	27,114	11,404	9,714	21,178	—	267	18,485	—
1887	13,864	11,810	23,604	17,009	14,854	21,987	681	672	20,087	—
1888	12,029	10,682	23,390	11,711	9,030	21,814	—	708	18,041	—
Average	13,237	11,801	24,186	13,946	11,656	24,403	210	1,826	19,349	—

Karnal District]

Table No. XI A, showing MONTHLY DEATHS from all CAUSES.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Month	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	Average.	
January	1,156	—	1,090	1,157	2,068	1,778	1,778	1,254	2,071	1,054	2,078	1,708	1,553	
February	1,048	—	613	1,120	2,059	1,998	1,995	1,297	1,295	1,557	1,291	1,297	1,297	
March	1,112	1,112	1,052	1,402	1,027	1,014	1,062	1,010	1,731	1,285	1,475	1,370	1,323	
April	1,049	1,049	610	1,751	1,724	1,920	1,905	1,244	1,459	1,603	1,411	1,671	1,556	
May	1,074	1,074	1,112	2,242	1,807	1,020	1,067	1,621	1,017	2,010	1,717	2,410	1,931	
June	1,046	1,046	1,050	2,120	2,029	1,905	1,925	2,113	2,164	1,607	1,700	2,198	1,947	
July	1,049	1,049	1,250	1,610	1,280	1,261	1,451	1,131	1,264	1,039	1,428	1,619	1,486	
August	1,112	1,112	1,107	1,542	1,065	1,022	1,250	1,023	1,701	2,325	1,868	1,717	1,577	
September	1,041	1,041	610	1,932	1,451	2,005	2,070	2,015	1,115	2,017	2,069	2,052	2,058	
October	1,048	1,048	680	3,047	6,052	2,105	1,019	1,862	1,264	1,237	1,141	1,018	1,260	
November	1,049	1,049	1,210	6,359	3,065	1,004	2,140	1,655	1,857	2,007	2,160	3,062	2,793	
December	1,041	1,041	1,072	2,702	2,207	2,204	2,510	1,018	1,020	2,114	2,181	2,001	2,001	
Total	—	12,841	12,921	26,200	23,210	21,661	19,750	18,411	21,003	21,178	21,357	21,311	21,872	

Note.—These figures are taken from Table No. III of the Sanitary Report.

Table No. XI B, showing MONTHLY DEATHS from FEVER

Month.	1		2		3		4		5		6		7		8		9		10		11		12		13	
	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.
January	1,104	1,104	634	623	2,610	2,421	1,126	1,223	695	613	1,638	1,318	1,217	1,729	1,217	1,729	1,217	1,729	1,217	1,729	1,217	1,729	1,217	1,729	1,217	1,729
February	1,141	1,141	610	472	1,204	1,416	1,204	812	613	733	1,040	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	
March	1,011	1,011	674	868	650	1,204	1,126	1,044	1,036	793	1,116	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	1,251	
April	1,011	1,011	—	426	713	892	1,294	1,373	741	762	824	1,050	1,213	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
May	1,011	1,011	—	372	903	1,091	1,912	1,018	1,206	910	1,119	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414
June	1,011	1,011	—	497	509	1,271	1,437	1,043	1,216	1,011	1,011	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414
July	1,011	1,011	—	659	642	701	637	623	752	620	612	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102
August	1,011	1,011	—	707	773	3,108	1,991	642	913	854	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222
September	1,011	1,011	—	610	1,033	2,500	1,117	1,414	1,117	655	809	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514
October	1,011	1,011	—	423	2,752	6,169	1,570	1,036	881	640	7,401	2,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304
November	1,011	1,011	—	611	4,702	8,076	1,256	1,256	1,256	920	4,710	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229
December	1,011	1,011	—	515	4,285	2,048	1,270	1,036	1,254	602	2,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065
Total	1,011	1,011	—	20,047	17,917	41,060	12,493	4,977	25,146	15,404	15,404	21,287	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404	15,404

Note.—These figures are taken from Table No. IX of the Boundary Report.

Table No. XII, showing INFIRMITIES.

1		2		3		4		5		6		7	
		Infants.		Older.		Diseases.		Diseases.		Leprosy.		Leprosy.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
All religions		Total		122	81	229	222	121	73	107	24		
	Villages			129	79	241	1,044	137	64	139	19		
Hindus				103	70	2,026	2,711	230	63	121	18		
Others				1	1	20	28	—	—	2	0		
Muslims				24	21	364	364	17	15	69	0		

Note.—These figures are taken from Tables Nos. XIV to XVI of the Census of 1881, and refer to the classes as specified in that year.

Table No. XIII, showing EDUCATION.

1		2		3		4		5		6		7	
		Males.		Females.		Males.		Females.		Males.		Females.	
		Under 10 years old.	Over 10 years old.										
A. J. religions													
Total		5,713	15,729	45	10	—	—	—	—	911	1,412	—	—
Villages		1,624	9,223	—	—	—	—	—	—	39	7	—	—
Urban		4,089	6,506	45	10	—	—	—	—	1,331	1,312	40	17
Others		—	—	—	—	—	—	—	—	—	—	—	—
Hindus		—	—	—	—	—	—	—	—	—	—	—	—
Others		—	—	—	—	—	—	—	—	—	—	—	—
Jains		—	—	—	—	—	—	—	—	—	—	—	—
Muslims		—	—	—	—	—	—	—	—	—	—	—	—
Buddhists		—	—	—	—	—	—	—	—	—	—	—	—

Note.—These figures are taken from Table No. XIII of the Census of 1881, and refer to the classes as specified in that year.

Table No. XIV, showing detail of SURVEYED and ASSESSED AREA.

1		2		3		4		5		6		7	
		CULTIVATED.				UNCULTIVATED.				Total area assessed.			
		Acres in square miles.											
1880-81		100,100	131,076	401,373	461,103	1,064	216,127	279,000	406,162	1,304,200	360,800	1,304,200	1,304,200
1881-82		100,173	130,773	407,348	461,102	1,273	201,410	276,999	422,373	1,060,171	371,304	1,060,171	1,060,171
1882-83		100,227	131,863	411,150	460,013	1,382	200,300	262,349	423,372	1,062,309	362,309	1,062,309	1,062,309
Total area for 1881-82													
Taluk Karnal		28,000	41,300	173,433	212,226	—	314,000	113,870	297,510	630,300	234,822	630,300	630,300
— Pipliwal		21,712	34,397	101,110	100,000	—	61,810	59,320	111,100	202,941	84,042	202,941	202,941
— Kallar		7,265	10,202	72,351	94,340	8,117	82,962	111,700	155,319	111,304	110,320	111,304	110,320
— Tarni		45,730	61,600	110,000	110,000	—	107,307	117,400	161,001	510,000	151,327	510,000	510,000
Total area for 1882-83													
Taluk Karnal		11,114	21,304	231,000	258,972	—	192,400	63,400	253,370	616,701	254,001	616,701	616,701
— Pipliwal		8,474	20,762	116,143	116,171	—	42,370	41,800	120,427	241,144	81,508	241,144	241,144
— Kallar		7,741	12,504	114,246	130,218	—	109,100	80,000	137,300	337,015	99,197	337,015	337,015

Note.—The figures for 1880-81 are taken from Chapter III appended to the Revenue Report of that year; those for earlier years are taken from Table No. VIII of the Administration Report, except those in the last column, which are derived from Table I of the same report.

Table No. XV, showing TENURES held direct from Government as they stood in 1888-89.

Note.—These figures do not include the 1910-11 Moraine Report, or the 1911

Karnal District.]

Table No. XVI, showing the cultivating occupancy of land in 1868-90

Details	Karnal	Tirhat		Karnal		Total of the District.
		Acreage belonging to cultivators	Acreage belonging to non-cultivators	Acreage belonging to cultivators	Acreage belonging to non-cultivators	
Total area cultivated	1,14,125	22,471	40,722	120,471	25,129	51,011
Acre cultivated by owners	1,14,125	15,794	31,461	114,236	30,570	42,917
Acre cultivated by Tenants free of rent	1,14,125	2,630	628	4,940	2,618	5,724
With regard to occupancy:						
Playing at Kharaiana rates, with or without Mahilla	604	12,140	2,425	3,257	1,113	6,257
Playing other cash rents paying in kind with or without an additional fee equal to 10%	717	13,677	4,222	1,367	210	1,700
Playing at Kharaiana rates, with or without Mahilla	442	1,250	412	1,024	400	1,414
Playing at Kharaiana rates, with or without Mahilla	6,412	12,862	10,400	10,612	4,072	10,759
Playing other cash rents paying in kind, with or without an additional fee equal to 10%	6,910	25,000	600	3,572	3,763	13,570
Total held by Tenants paying rents	25,256	65,341	10,937	31,165	17,700	68,756

STATEMENT AS OF 31ST DECEMBER 1869

District	Area.		Area.		Area.	
	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue
1. Zaili revenue	65	4,995	1,722	5,012	4	1,798
2. Half produce or more	56	618	1,203	2,202	80	1,227
3. Two-thirds to half	27	1,700	1,102	2,029	100	1,129
4. One-third to two-thirds	631	13,693	100	212	1,124	738
5. Less than one-third	901	10,400	1,022	2,940	20,148	31,604
6. By land amount of produce	71	120	1080	2,261	100	1,490
7. Total area under revenue in kind	4,736	27,462	6,000	12,816	1,254	27,371
Other results	1	1,010	67,020	4,257	1,514	29,514
8. Total area paying cash rent	2,446	14,972	60,100	1,252	20,100	43,700
9. Total cash rent	100	100	100	100	100	100

Details of areas under tax less than one-half.

Note.—These figures are taken from Statement XII appended to the Revenue Report of 1889-90, but they appear to be inaccurate as the two parts of the statement do not agree.

Table No. XVII, AREA and INCOME of GOVERNMENT LANDS for 1888-89.

1 Total area for taxes	2 Calculated value Rs. per acre	3 Revenue	4 Under Forest Re- partments	5 Under other departments	6 Change Departs ment in charge of management	7 Income for year ending 30th September 1888.			10
						8 From lease of est- ates	9 Other income	10 Total income	
10,474			...	12,479		1,841	1,841		

Table No. XIX, showing LAND ACQUIRED by GOVERNMENT between 1881-82 and 1889-90

1 Purpose for which acquired	2 Area acquired	3 Compensation paid in respect	4 Reduction of Revenue in respect
Trees	28.96	154	12
Canaid, Majahada, &c.	1,624.60	27,030	311
Railways	1,611.70	1,222.80	1,163
Miscellaneous (including Non-Depot Acre)	2,049.17	74,222	818
Total	4,780.47	92,386	1,006

Table XX. showing ACRES under CROPS.

Years.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Tahsil of both Districts separately gram.		Cotton, Jute & Bajra,		Cotton, Cann., Gram.		Indigo,	
																Gram.	Wholesale Market.	Gram.	Wholesale Market.	Gram.	Wholesale Market.	Gram.	
1873-74	466,291	189,774	341,624	71,009	1,490	1,248	68,691	11,436	61,904	28,547	27,731	11,746	17,295	411									
1874-75	413,729	98,276	312,424	72,096	1,253	1,167	67,069	11,700	60,529	29,467	28,005	19,058	19,058	410									
1875-76	309,317	125,404	41,631	67,120	1,075	920	64,120	10,958	58,089	42,097	46,440	25,460	25,460	410									
1876-77	673,644	110,116	21,870	110,625	840	107	63,113	6,215	142,510	31,058	20,063	14,359	21,510	598									
1877-78	410,657	123,320	114,474	56,170	1,096	2,004	35,728	2,706	38,572	11,075	10,333	10,247	10,247	707									
1878-79	637,394	101,281	77,891	27,845	2,832	1,021	60,029	10,321	164,310	37,116	40,273	17,125	21,768	110									
1879-80	781,567	106,725	43,937	82,046	6,490	1,034	100,240	9,918	170,248	52,760	40,114	16,917	21,915	415									
1880-81	682,522	112,060	44,680	66,700	1,047	1,000	114,078	10,022	150,080	41,919	20,401	14,704	17,842	791									
1881-82	613,117	91,001	20,725	74,970	2,820	2,124	102,020	12,110	171,028	56,000	24,907	17,590	22,598	1,295									
1882-83	817,727	94,790	27,263	78,578	1,635	2,047	58,577	21,750	167,217	61,708	57,553	21,525	26,150	3,127									
1883-84	653,594	108,793	29,736	121,310	7,610	1,012	27,013	19,507	60,628	19,920	12,624	11,150	28,010	5,614									
1884-85	613,294	138,620	50,160	47,689	2,806	1,101	10,201	17,021	102,717	64,428	37,932	14,307	21,107	4,172									
1885-86	667,115	141,567	32,174	104,424	1,640	2,168	60,219	16,564	102,708	27,840	41,224	12,556	13,141	7,244									
1886-87	811,016	129,126	16,614	62,880	1,102	1,214	30,926	17,000	65,197	45,014	20,101	8,174	20,060	4,027									
1887-88	750,516	145,214	21,864	182,770	1,810	1,272	77,110	17,223	122,488	68,901	31,467	17,573	20,067	7,584									
1888-89	610,294	152,025	29,964	312,581	2,114	1,284	82,521	18,798	117,392	34,024	26,251	15,015	20,058	7,757									

Note.—These figures are taken from Statistical Report of Administration for each year from 1883-84 to 1887-88, and from Statistical No. 41 of the same for 1888-89 to 1890-91. The figures relate to the financial year from 1883-90, i.e., 1st July to 31st December, and the figures for 1891-92, i.e., 1st July to 31st March, relate to the financial year from 1890-91, i.e., 1st April to 30th June.

TABLE XXI, showing PREVAILING RENTS.

NET CHARGES PAID BY TENANTS HOLDING FROM TRA TO TRA WITHOUT DRAIN OR SEWERAGE.		NET CHARGES PAID BY TENANTS HOLDING FROM TRA TO TRA WITH DRAIN OR SEWERAGE.	
Per Land Occupied by Cattle.	Per Land Occupied by Cattle.	Per Land Occupied by Cattle.	Per Land Occupied by Cattle.
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100
101	102	103	104
105	106	107	108
109	110	111	112
113	114	115	116
117	118	119	120
121	122	123	124
125	126	127	128
129	130	131	132
133	134	135	136
137	138	139	140
141	142	143	144
145	146	147	148
149	150	151	152
153	154	155	156
157	158	159	160
161	162	163	164
165	166	167	168
169	170	171	172
173	174	175	176
177	178	179	180
181	182	183	184
185	186	187	188
189	190	191	192
193	194	195	196
197	198	199	200
201	202	203	204
205	206	207	208
209	210	211	212
213	214	215	216
217	218	219	220
221	222	223	224
225	226	227	228
229	230	231	232
233	234	235	236
237	238	239	240
241	242	243	244
245	246	247	248
249	250	251	252
253	254	255	256
257	258	259	260
261	262	263	264
265	266	267	268
269	270	271	272
273	274	275	276
277	278	279	280
279	280	281	282
283	284	285	286
287	288	289	290
291	292	293	294
295	296	297	298
299	300	301	302
303	304	305	306
307	308	309	310
311	312	313	314
315	316	317	318
319	320	321	322
323	324	325	326
327	328	329	330
331	332	333	334
335	336	337	338
339	340	341	342
343	344	345	346
347	348	349	350
351	352	353	354
355	356	357	358
359	360	361	362
363	364	365	366
367	368	369	370
371	372	373	374
375	376	377	378
379	380	381	382
383	384	385	386
387	388	389	390
391	392	393	394
395	396	397	398
399	400	401	402
403	404	405	406
407	408	409	410
411	412	413	414
415	416	417	418
419	420	421	422
423	424	425	426
427	428	429	430
431	432	433	434
435	436	437	438
439	440	441	442
443	444	445	446
447	448	449	450
451	452	453	454
455	456	457	458
459	460	461	462
463	464	465	466
467	468	469	470
471	472	473	474
475	476	477	478
479	480	481	482
483	484	485	486
487	488	489	490
491	492	493	494
495	496	497	498
499	500	501	502
503	504	505	506
507	508	509	510
511	512	513	514
515	516	517	518
519	520	521	522
523	524	525	526
527	528	529	530
531	532	533	534
535	536	537	538
539	540	541	542
543	544	545	546
547	548	549	550
551	552	553	554
555	556	557	558
559	560	561	562
563	564	565	566
567	568	569	570
571	572	573	574
575	576	577	578
579	580	581	582
583	584	585	586
587	588	589	590
591	592	593	594
595	596	597	598
599	600	601	602
603	604	605	606
607	608	609	610
611	612	613	614
615	616	617	618
619	620	621	622
623	624	625	626
627	628	629	630
631	632	633	634
635	636	637	638
639	640	641	642
643	644	645	646
647	648	649	650
651	652	653	654
655	656	657	658
659	660	661	662
663	664	665	666
667	668	669	670
671	672	673	674
675	676	677	678
679	680	681	682
683	684	685	686
687	688	689	690
691	692	693	694
695	696	697	698
699	700	701	702
703	704	705	706
707	708	709	710
711	712	713	714
715	716	717	718
719	720	721	722
723	724	725	726
727	728	729	730
731	732	733	734
735	736	737	738
739	740	741	742
743	744	745	746
747	748	749	750
751	752	753	754
755	756	757	758
759	760	761	762
763	764	765	766
767	768	769	770
771	772	773	774
775	776	777	778
779	780	781	782
783	784	785	786
787	788	789	790
791	792	793	794
795	796	797	798
799	800	801	802
803	804	805	806
807	808	809	810
811	812	813	814
815	816	817	818
819	820	821	822
823	824	825	826
827	828	829	830
831	832	833	834
835	836	837	838
839	840	841	842
843	844	845	846
847	848	849	850
851	852	853	854
855	856	857	858
859	860	861	862
863	864	865	866
867	868	869	870
871	872	873	874
875	876	877	878
879	880	881	882
883	884	885	886
887	888	889	890
891	892	893	894
895	896	897	898
899	900	901	902
903	904	905	906
907	908	909	910
911	912	913	914
915	916	917	918
919	920	921	922
923	924	925	926
927	928	929	930
931	932	933	934
935	936	937	938
939	940	941	942
943	944	945	946
947	948	949	950
951	952	953	954
955	956	957	958
959	960	961	962
963	964	965	966
967	968	969	970
971	972	973	974
975	976	977	978
979	980	981	982
983	984	985	986
987	988	989	990
991	992	993	994
995	996	997	998
999	1000	1001	1002

Table XXII, showing NUMBER of STOCK.

Table No. XXIII, showing OCCUPATIONS of MALES.

No. Sect. 25	Name of occupation.	Males above 10 years of age.			Males below 10 years of age.			Males above 10 years of age.		
		Total	On Average	Total	Total	On Average	Total	On Average	Total	
1	Farm proprietors	21,307	109.107	111,300	11	Agricultural labourers	309	2,413	2,413	
2	Commercial traders	11,309	107.109	127,300	12	Porters	229	2,249	2,249	
3	Artisans &c., domestic service	6,004	11.004	11,004	13	Cookes and other servants	1,370	1,370	1,370	
4	or apprentices				14	Barbers and hair-dressers	120	2,072	2,072	
5	Craft labourers	779	1,779	2,779	15	Chambers and porters	642	7,121	8,072	
6	Menial	264	31	375	16	Workers in brick, stone, & wood etc.	200	2,040	2,040	
7	Shepherds	274	2,778	3,052	17	Workers in leather	294	6,170	6,170	
8	Labourers	281	2,817	3,048	18	Manufacturers	236	4,722	4,722	
9	Other professions	148	360	1,200	19	Workers in wood and peacock skins, &c.	230	354	354	
10	Musicians, comedians, etc.	648	2,039	2,687	20	— — —	10	10	10	
11	Postmen, telegraphists, etc.	1,000	1,000	1,000	21	— — —	5,000	5,000	5,000	
12	Businessmen, postmen, etc.	100	212	212	22	Porters	300	1,200	1,200	
13	Under-gardens, shopkeepers, etc.	630	121	630	23	Workers and dealers in dried fruits, &c.	220	960	960	
14	Carriers and porters	176	176	2,761	24	— — —	— — —	— — —	— — —	
15	Lumbermen	2,012	72.41	75,709	25	Workers in lime	200	1,200	1,200	
16	Miners	1,000	1,000	1,000	26	Chemists and druggists	1,000	1,000	1,000	
17	Post-office workers	400	1,000	1,000	27	Singers, Dancers, and Tap Dancers	100	1,000	1,000	

Note.—These figures are taken from Table No. XXII A of the Census Report of 1901, and will give the distribution of males in 1901.

Table No. XXIV, showing MANUFACTURES.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	Industry part iculars and details	
											Area	Capital
Number of mills and large factories												
Number of persons employed												
Number of workers, Male												
In charge of work, Female												
Number of workers in small works	34	1,426	100	201	—	—	2,416	2,416	404	404	—	4,140
Yards of cotton, length 1000 ft.												
Number of yards, length 1000 ft.	3,000	4,000,000	1,14,240	10,000	—	—	2,000	2,000	3,200	3,200	—	1,410,000
Number of mills and large factories												
Number of workers, Male												
In charge of work, Female												
Number of workers in small works	611	2,211	1,101	1,101	—	—	24	2,200	2,200	16,200	16,200	—
Yards of cotton, length 1000 ft.												
Number of yards, length 1000 ft.	3,000	4,000,000	1,14,240	10,000	—	—	2,211	2,200	2,200	2,200	2,200	16,200

Table No. XXVI, showing RETAIL PRICES.

Year.	Bazaar.	Gopals.	Kotwali.	Series of Retail Prices established by Date.											
				1	2	3	4	5	6	7	8	9	10	11	12
1870-71	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
1871-72	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1872-73	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.
1873-74	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
1874-75	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.
1875-76	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.
1876-77	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.
1877-78	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
1878-79	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.
1879-80	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.
1880-81	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.
1881-82	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.
1882-83	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.
1883-84	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.
1884-85	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.
1885-86	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.
1886-87	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.
1887-88	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.
1888-89	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.
1889-90	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.
1890-91	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.
1891-92	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.
1892-93	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.
1893-94	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.
1894-95	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.
1895-96	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.
1896-97	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.
1897-98	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.
1898-99	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.
1899-1900	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.
1900-01	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.
1901-02	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.
1902-03	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.
1903-04	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.
1904-05	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.
1905-06	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.
1906-07	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.
1907-08	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
1908-09	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.
1909-10	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.
1910-11	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.
1911-12	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.
1912-13	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.
1913-14	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.
1914-15	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.
1915-16	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.
1916-17	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.
1917-18	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.
1918-19	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.
1919-20	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.
1920-21	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.
1921-22	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.
1922-23	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.
1923-24	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.
1924-25	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.
1925-26	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.
1926-27	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.
1927-28	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.
1928-29	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.
1929-30	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.
1930-31	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.
1931-32	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.
1932-33	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.
1933-34	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.
1934-35	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.
1935-36	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.
1936-37	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.
1937-38	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.
1938-39	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.
1939-40	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.
1940-41	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.
1941-42	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.
1942-43	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.
1943-44	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.
1944-45	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.
1945-46	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.
1946-47	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.
1947-48	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.
1948-49	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.
1949-50	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.
1950-51	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.
1951-52	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.
1952-53	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.
1953-54	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.
1954-55	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.
1955-56	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.
1956-57	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.
1957-58	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.
1958-59	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.
1959-60	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.
1960-61	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.
1961-62	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.
1962-63	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.	115.
1963-64	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.	115.	116.
1964-65	103.	104.	105.	106.	107.	108.	109.	110.	111.	1					

Table No. XXVII, showing PRICE of LABOUR.

Mong. - The figures for 1908-09 (i.e. 1907-08, see taken from Table No. 41 of the Administration Report, those for 1909 as given in Table No. 47, and those for the last three years from Table No. 48. The figures are revised slightly annually.

Table No. XXVIII, showing REVENUE COLLECTED.

1	2	3	4	5	6	7	8	9
YEAR.	Fixed Land Revenue.	Floating and Miscel- laneous Land Revenue.	Tribute.	Total values.		Excise.	Stampa.	Total Collection.
			Spirits.		Drugs.			
1865-66	4,50,700	2,307		4,509	4,502	18,571	7,04,369	
1866-67	4,50,104	1,529		4,510	6,541	18,237	7,04,369	
1867-68	4,65,292	2,521		4,654	8,502	18,514	7,20,285	
1868-69	4,69,202	2,372		4,692	8,377	8,510	18,315	7,58,511
1869-70	4,67,320	2,262		4,673	8,303	8,403	18,236	7,58,376
1870-71	4,67,261	2,298		4,673	8,299	7,369	41,201	7,51,651
1871-72	4,67,102	2,210		4,671	4,149	8,291	18,156	7,70,362
1872-73	4,67,020	2,162		4,670	4,144	8,282	18,151	7,70,362
1873-74	4,67,051	2,198		4,670	4,144	8,281	18,150	7,70,360
1874-75	4,67,020	2,210		4,670	4,144	8,281	18,150	7,70,360
1875-76	4,67,002	2,010		4,670	4,144	8,282	18,151	7,70,362
1876-77	4,77,200	2,210		4,772	4,144	8,281	18,150	7,80,360
1877-78	4,79,087	1,655		4,792	6,650	8,000	45,259	7,45,359
1878-79	4,67,247	27,406		4,672	4,570	8,016	50,262	7,48,359
1879-80	4,42,013	2,705		4,422	1,024	7,002	37,378	7,80,359
1880-81	4,57,481	17,000		4,575	5,779	34,354	7,94,715	
1881-82	5,03,770	18,929		5,03,773	6,011	8,000	60,234	7,80,360
1882-83	5,10,631	2,007		5,10,637	7,749	10,416	40,070	7,51,301
1883-84	5,12,192	4,002		5,12,195	7,078	11,729	50,354	7,60,354
1884-85	5,10,480	1,770		5,10,474	9,034	10,225	49,028	7,60,354
1885-86	5,15,501	2,250		5,15,510	8,024	7,226	50,012	7,61,510
1886-87	5,10,101	2,000		5,10,101	7,502	10,495	34,462	7,58,762
1887-88	5,09,001	14,373		5,09,070	7,777	10,209	34,707	7,61,777
1888-89	5,11,101	10,547		5,11,100	8,592	9,591	34,591	8,15,577

Note.—The figures for the last two years are taken from Table No. I.—**XXXII**, and those for the earlier years are extracted from the Annual Statistical Report. The following sources are consulted:—Catalina, P. G., and other annual reports; the census for the different years mentioned.

Table No. XXIX, showing REVENUE DERIVED from LAND.

1 Year.	2 Estimated Revenue (Rs.)	3 PUNCTUATING LAND REVENUE.				Miscellaneous Land Revenue.							
		4 Due to inferior on units minor Distr. Revenue.		5 Waste land revenue.		6 Punctuating rent of villages.		7 Government revenue.		8 Fees for entry.		9 Rate of wood.	
		8	9	10	11	12	13	14	15	16	17	18	19
1890-91	Rs. 1,02,040	Rs. 12	Rs. ...	Rs. 14,896	Rs. 11,917	Rs. ..	Rs. 1,104	Rs. ...	Rs. -	Rs. 1,730	Rs. -	Rs. -	Rs. -

Table No. XXX, showing ASSIGNED LAND REVENUE
in 1890-91.

1	2	3	4	5	6	7	8	9	10
TOTAL AREA AND REVENUE AMOUNTS.									
Village.	Provincial portion of Village.			Pata.		Total.		In perpetuity free of conditions.	
Area.	Jamia.	Area.	Jamia.	Area.	Jamia.	Area.	Jamia.	Area.	Jamia.
320,458	122,903	21,642	8,001	5,003	16,011	353,969	129,272	343,824	110,724
11	12	13	14	15	16	17	18	19	20

DISTRIBUTION OF AREA AND JAMIA.

In perpetuity sub- ject to conditions.	For life or term.	At pleasure of Government.	For term of Settlement.	Pending orders of Government.
Area.	Jamia.	Area.	Jamia.	Area.
6,582	4,350	2,447	1,803	7,741
21	22	23	24	25

NUMBER OF HOMES.

In perpetuity subject to con- ditions.	In perpetuity subject to con- ditions.	For life or term.	At pleasure of Government.	For term of Government.	Pending orders of Government.
9,730	130	101	195	207	2
26	27	28	29	30	31

Table No. XXXI, showing BALANCES, REMISSIONS and TAKAVI.

YEAR.	Balances of Land revenue in rupees.			Reduction of fixed demand on amount of land revenue, due to remission, &c., in rupees.	Takavi advances in rupees.
	Fiscal revenue.	Plantation and mineral-revenue.	Land revenue.		
1868-69	—	—	13,870	—	5,500
1869-70	—	—	17,781	200	28,611
1870-71	—	—	1,077	—	1,510
1871-72	—	—	127	—	1,755
1872-73	—	—	1,072	—	450
1873-74	—	—	543	1,100	1041
1874-75	—	—	607	—	476
1875-76	—	—	1,292	8	900
1876-77	—	—	1,579	72	2161
1877-78	—	—	18,947	170	1,700
1878-79	—	—	62,303	12,719	45,254
1879-80	—	—	12,000	95	85
1880-81	—	—	10,218	2,750	620
1881-82	—	—	460	22	211
1882-83	—	—	587	100	1,100
1883-84	—	—	67,136	68	6,570
1884-85	—	—	24,492	72	15,778
1885-86	—	—	6,540	5	1,100
1886-87	—	—	7,531	5	1,275
1887-88	—	—	10,202	—	2,070
1888-89	—	—	260	610	2,020

Note.—The figures are taken from the Statements appended to the Annual Land Revenue Report. Those for last two years refer to the agricultural year half-year.

Table No. XXXII, showing SALES and MORTGAGES of LAND.

YEAR,	SALES,			MORTGAGES			REGISTRATION OF MORTGAGES.			AMOUNTS RECEIVED FROM SELLERS AND MORTGAGORS.
	ACRES.	RS.	PURCHASE AMOUNT.	ACRES.	RS.	MORT- GAGE AMOUNT.	ACRES.	RS.	MORT- GAGE AMOUNT.	
	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.	
1906-07	3,671	3,363	63,633	2,000	1,649	27,389	1,121	2,229	24,500	40,274
1907-08	2,147	2,192	40,149	2,744	2,992	51,211	2,161	2,421	64,103	30,283
1908-09	2,057	2,168	41,646	2,163	2,123	31,290	1,161	2,002	27,113	32,617

Note.—These figures are taken from Appendices X, A, and XI of Annual Returns Report.

Table No. XXXIII, showing SALE of STAMPS and REGISTRATION of DEEDS.

YEAR,	THE AMOUNT PAID OF STAMPS				OPERATIONS OF THE REGISTRATION DEPARTMENT.								TOTAL AMOUNT PAID IN STAMPS.			
	AMOUNT PAID IN STAMPS.	AMOUNT PAID IN REGISTRATION FEE.	AMOUNT PAID IN REVENUE TAXES.	AMOUNT PAID IN OTHER REVENUE.	NO. OF DEEDS REGISTERED.	NO. OF DEEDS REGISTERED IN 1906-07.	AMOUNT PAID IN STAMPS.	AMOUNT PAID IN REGISTRATION FEE.	AMOUNT PAID IN REVENUE TAXES.	AMOUNT PAID IN OTHER REVENUE.	NO. OF DEEDS REGISTERED.	AMOUNT PAID IN STAMPS.	AMOUNT PAID IN REGISTRATION FEE.	AMOUNT PAID IN REVENUE TAXES.	AMOUNT PAID IN OTHER REVENUE.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1906-07	Rs. 12,729	Rs. 1,100	Rs. 2,500	Rs. 1,100	1,100	1,100	Rs. 1,100	Rs. 1,100	Rs. 2,500	Rs. 1,100	1,100	Rs. 1,100	Rs. 1,100	Rs. 2,500	Rs. 1,100	Rs. 40,274
1907-08	Rs. 12,111	Rs. 2,192	Rs. 2,000	Rs. 2,192	1,147	1,147	Rs. 1,147	Rs. 1,147	Rs. 2,000	Rs. 1,147	1,147	Rs. 1,147	Rs. 1,147	Rs. 2,000	Rs. 1,147	Rs. 30,283
1908-09	Rs. 12,369	Rs. 2,123	Rs. 10,045	Rs. 2,123	1,003	1,003	Rs. 1,003	Rs. 1,003	Rs. 10,045	Rs. 1,003	1,003	Rs. 1,003	Rs. 1,003	Rs. 10,045	Rs. 1,003	Rs. 32,617
1909-10	Rs. 12,971	Rs. 2,168	Rs. 11,423	Rs. 2,168	1,115	1,115	Rs. 1,115	Rs. 1,115	Rs. 11,423	Rs. 1,115	1,115	Rs. 1,115	Rs. 1,115	Rs. 11,423	Rs. 1,115	Rs. 40,274

Note.—These figures are taken from Appendix A to the stamp, and Tables II and III of the Registration Report.

Table No. XXXIII A, showing REGISTRATIONS.

	NUMBER OF DEEDS REGISTERED.							TOTAL NUMBER OF DEEDS.	
	1906-07.			1907-08.					
	REGISTRATION FEES.	STAMPS.	OTHER REVENUE.	REGISTRATION FEES.	STAMPS.	OTHER REVENUE.			
Proprietor, Estate.	—	—	—	Rs. 121	Rs. 172	Rs. 20	Rs. 147	Rs. 30	
Non-Proprietor, Estate.	—	—	—	Rs. 121	Rs. 211	Rs. 20	Rs. 186	Rs. 30	
Do. Xanthophyllum.	—	—	—	Rs. 121	Rs. 214	Rs. 20	Rs. 184	Rs. 30	
Do. Forest.	—	—	—	Rs. 121	Rs. 213	Rs. 20	Rs. 183	Rs. 30	
Do. Judicial.	—	—	—	Rs. 121	Rs. 212	Rs. 20	Rs. 182	Rs. 30	
Do. Arrears.	—	—	—	Rs. 121	Rs. 210	Rs. 20	Rs. 180	Rs. 30	
Total.	—	—	—	Rs. 1,115	Rs. 1,115	Rs. 1,115	Rs. 1,115	Rs. 1,115	
Total of Deeds.	—	—	—	1,115	1,115	1,115	1,115	1,115	

Note.—These figures are taken from Table No. I of the Registration Report.

Table No. XXXIV, showing LICENSE TAX COLLECTIONS.

Table No. XXXV, showing EXCISE STATISTICS

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Table No. XXXVI, showing DISTRICT FUNDS.

YEAR	Annual Income in Millions				Annual Expenditure in Millions			
	Interest rate	Mortgage	Total Revenue	Expenditure	Interest paid, real estate insurance	Expenditure	Mortgage	Public Works, etc., interest
1874-75			61,297	1,103	2,069	16,061	2,416	10,429
1875-76			59,497	1,471	171	7,124	2,347	10,376
1876-77			58,496	2,365	798	6,500	2,410	11,160
1877-78			74,137	2,045	932	10,577	4,152	21,115
1878-79			70,109	2,225	914	10,478	5,130	24,445
1879-80			79,203	942	2,704	71	10,016	25,172
1880-81			74,378	4,260	27,908	881	9,624	21,000
1881-82			76,113	1,974	760	911	9,311	24,269

Xmas - This letter will update our operation and it will be used to keep you up to date.

Karnal District.

Table No. XXXVII, showing GOVERNMENT AIDED SCHOOLS.

YEAR	GOVERNMENT SCHOOLS.											
	HIGH SCHOOLS			MIDDLE SCHOOLS			PRIMARY SCHOOLS			CHARACTER.		
	Element.	Vocational	Technical	Primary	Arith.	Geomet.	Primary	Arith.	Geomet.	Primary	Arith.	Geomet.
1891-92	1	0	1	3	6	2	6	9	10	11	13	14
1892-93	2	0	1	3	6	2	6	9	10	11	13	14
1893-94	3	0	1	3	6	2	6	9	10	11	13	14
1894-95	4	0	1	3	6	2	6	9	10	11	13	14
1895-96	5	0	1	3	6	2	6	9	10	11	13	14
1896-97	6	0	1	3	6	2	6	9	10	11	13	14
1897-98	7	0	1	3	6	2	6	9	10	11	13	14
1898-99	8	0	1	3	6	2	6	9	10	11	13	14
1899-1900	9	0	1	3	6	2	6	9	10	11	13	14
1900-1901	10	0	1	3	6	2	6	9	10	11	13	14
1901-1902	11	0	1	3	6	2	6	9	10	11	13	14
1902-1903	12	0	1	3	6	2	6	9	10	11	13	14
1903-1904	13	0	1	3	6	2	6	9	10	11	13	14
1904-1905	14	0	1	3	6	2	6	9	10	11	13	14
1905-1906	15	0	1	3	6	2	6	9	10	11	13	14
1906-1907	16	0	1	3	6	2	6	9	10	11	13	14
1907-1908	17	0	1	3	6	2	6	9	10	11	13	14
1908-1909	18	0	1	3	6	2	6	9	10	11	13	14
1909-1910	19	0	1	3	6	2	6	9	10	11	13	14
1910-1911	20	0	1	3	6	2	6	9	10	11	13	14
1911-1912	21	0	1	3	6	2	6	9	10	11	13	14
1912-1913	22	0	1	3	6	2	6	9	10	11	13	14
1913-1914	23	0	1	3	6	2	6	9	10	11	13	14
1914-1915	24	0	1	3	6	2	6	9	10	11	13	14
1915-1916	25	0	1	3	6	2	6	9	10	11	13	14
1916-1917	26	0	1	3	6	2	6	9	10	11	13	14
1917-1918	27	0	1	3	6	2	6	9	10	11	13	14
1918-1919	28	0	1	3	6	2	6	9	10	11	13	14
1919-1920	29	0	1	3	6	2	6	9	10	11	13	14
1920-1921	30	0	1	3	6	2	6	9	10	11	13	14
1921-1922	31	0	1	3	6	2	6	9	10	11	13	14
1922-1923	32	0	1	3	6	2	6	9	10	11	13	14
1923-1924	33	0	1	3	6	2	6	9	10	11	13	14
1924-1925	34	0	1	3	6	2	6	9	10	11	13	14
1925-1926	35	0	1	3	6	2	6	9	10	11	13	14
1926-1927	36	0	1	3	6	2	6	9	10	11	13	14
1927-1928	37	0	1	3	6	2	6	9	10	11	13	14
1928-1929	38	0	1	3	6	2	6	9	10	11	13	14
1929-1930	39	0	1	3	6	2	6	9	10	11	13	14
1930-1931	40	0	1	3	6	2	6	9	10	11	13	14
1931-1932	41	0	1	3	6	2	6	9	10	11	13	14
1932-1933	42	0	1	3	6	2	6	9	10	11	13	14
1933-1934	43	0	1	3	6	2	6	9	10	11	13	14
1934-1935	44	0	1	3	6	2	6	9	10	11	13	14
1935-1936	45	0	1	3	6	2	6	9	10	11	13	14
1936-1937	46	0	1	3	6	2	6	9	10	11	13	14
1937-1938	47	0	1	3	6	2	6	9	10	11	13	14
1938-1939	48	0	1	3	6	2	6	9	10	11	13	14
1939-1940	49	0	1	3	6	2	6	9	10	11	13	14
1940-1941	50	0	1	3	6	2	6	9	10	11	13	14
1941-1942	51	0	1	3	6	2	6	9	10	11	13	14
1942-1943	52	0	1	3	6	2	6	9	10	11	13	14
1943-1944	53	0	1	3	6	2	6	9	10	11	13	14
1944-1945	54	0	1	3	6	2	6	9	10	11	13	14
1945-1946	55	0	1	3	6	2	6	9	10	11	13	14
1946-1947	56	0	1	3	6	2	6	9	10	11	13	14
1947-1948	57	0	1	3	6	2	6	9	10	11	13	14
1948-1949	58	0	1	3	6	2	6	9	10	11	13	14
1949-1950	59	0	1	3	6	2	6	9	10	11	13	14
1950-1951	60	0	1	3	6	2	6	9	10	11	13	14
1951-1952	61	0	1	3	6	2	6	9	10	11	13	14
1952-1953	62	0	1	3	6	2	6	9	10	11	13	14
1953-1954	63	0	1	3	6	2	6	9	10	11	13	14
1954-1955	64	0	1	3	6	2	6	9	10	11	13	14
1955-1956	65	0	1	3	6	2	6	9	10	11	13	14
1956-1957	66	0	1	3	6	2	6	9	10	11	13	14
1957-1958	67	0	1	3	6	2	6	9	10	11	13	14
1958-1959	68	0	1	3	6	2	6	9	10	11	13	14
1959-1960	69	0	1	3	6	2	6	9	10	11	13	14
1960-1961	70	0	1	3	6	2	6	9	10	11	13	14
1961-1962	71	0	1	3	6	2	6	9	10	11	13	14
1962-1963	72	0	1	3	6	2	6	9	10	11	13	14
1963-1964	73	0	1	3	6	2	6	9	10	11	13	14
1964-1965	74	0	1	3	6	2	6	9	10	11	13	14
1965-1966	75	0	1	3	6	2	6	9	10	11	13	14
1966-1967	76	0	1	3	6	2	6	9	10	11	13	14
1967-1968	77	0	1	3	6	2	6	9	10	11	13	14
1968-1969	78	0	1	3	6	2	6	9	10	11	13	14
1969-1970	79	0	1	3	6	2	6	9	10	11	13	14
1970-1971	80	0	1	3	6	2	6	9	10	11	13	14
1971-1972	81	0	1	3	6	2	6	9	10	11	13	14
1972-1973	82	0	1	3	6	2	6	9	10	11	13	14
1973-1974	83	0	1	3	6	2	6	9	10	11	13	14
1974-1975	84	0	1	3	6	2	6	9	10	11	13	14
1975-1976	85	0	1	3	6	2	6	9	10	11	13	14
1976-1977	86	0	1	3	6	2	6	9	10	11	13	14
1977-1978	87	0	1	3	6	2	6	9	10	11	13	14
1978-1979	88	0	1	3	6	2	6	9	10	11	13	14
1979-1980	89	0	1	3	6	2	6	9	10	11	13	14
1980-1981	90	0	1	3	6	2	6	9	10	11	13	14
1981-1982	91	0	1	3	6	2	6	9	10	11	13	14
1982-1983	92	0	1	3	6	2	6	9	10	11	13	14
1983-1984	93	0	1	3	6	2	6	9	10	11	13	14
1984-1985	94	0	1	3	6	2	6	9	10	11	13	14
1985-1986	95	0	1	3	6	2	6	9	10	11	13	14
1986-1987	96	0	1	3	6	2	6	9	10	11	13	14
1987-1988	97	0	1	3	6	2	6	9	10	11	13	14
1988-1989	98	0	1	3	6	2	6	9	10	11	13	14
1989-1990	99	0	1	3	6	2	6	9	10	11	13	14
1990-1991	100	0	1	3	6	2	6	9	10	11	13	14
1991-1992	101	0	1	3	6	2	6	9	10	11	13	14
1992-1993	102	0	1	3	6	2	6	9	10	11	13	14
1993-1994	103	0	1	3	6	2	6	9	10	11	13	14
1994-1995	104	0	1	3	6	2	6	9	10	11	13	14
1995-1996	105	0	1	3	6	2	6	9	10	11	13	14
1996-1997	106	0	1	3	6	2	6	9	10	11	13	14
1997-1998	107	0	1	3	6	2	6	9	10	11	13	14
1998-1999	108	0	1	3	6	2	6	9	10	11	13	14
1999-2000	109	0	1	3	6	2	6	9	10	11	13	14
2000-2001	110	0	1	3	6	2	6	9	10	11	13	14
2001-2002	111	0	1	3	6	2	6	9	10	11	13	14
2002-2003	112	0	1	3	6	2	6	9	10	11	13	14
2003-2004	113	0	1	3	6	2	6	9	10	11	13	14
2004-2005	114	0	1	3	6	2	6	9	10	11	13	14
2005-2006	115	0	1	3	6	2	6	9	10	11	13	14
2006-2007	116	0	1	3	6	2	6	9	10	11	13	14
2007-2008	117	0	1	3	6	2	6	9	10	11	13	14
2008-2009	118	0	1	3	6	2	6	9	10	11	13	14
2009-2010	119	0	1	3	6	2	6	9	10	11	13	14
2010-2011	120	0	1	3	6	2	6	9	10	11	13	14
2011-2012	121	0	1	3	6	2	6	9	10	11	13	14
2012-201												

Table No. XXXVIII, showing the WORKING of DISPENSARIES.

Year of Discharge.		Number of Patients Treated.												Number of Patients Discharged.			
Year	Month	Men.						Women.						Discharged.			
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	
1877	Jan.	1,839	5,905	6,163	6,455	7,117	1,778	4,116	4,867	5,765	6,625	679	1,529	2,277	3,036	4,681	
Feb.	1,616	4,216	4,644	3,975	4,625	4,689	619	1,404	1,218	1,215	720	1,386	1,985	2,077	3,100		
Mar.	1,590	4,044	4,215	4,024	5,079	5,025	1,621	1,621	2,571	3,021	4,828	3,637	1,612	1,250	631	1,000	
Apr.	—	2,127	2,920	2,681	2,744	2,744	917	1,125	1,418	1,418	638	708	816	875	1,013		
May	1,894	2,426	2,304	2,388	2,388	2,175	743	1,754	1,948	1,948	617	960	674	611	671		
June	1,626	2,137	4,126	3,374	3,453	3,061	1,024	1,101	817	794	113	794	173	718	764		
Total	1877	18,914	24,406	25,240	22,716	24,018	6,061	6,061	6,061	6,061	6,061	2,867	5,510	6,350	7,265	8,681	
1878	Jan.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	22	
Feb.	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
March	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
April	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
May	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
June	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
Total	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
1878	Jan.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	22	
Feb.	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
March	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
April	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
May	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
June	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
Total	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
1879	Jan.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	22	
Feb.	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
March	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
April	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
May	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
June	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
Total	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
1880	Jan.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	22	
Feb.	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
March	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
April	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
May	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
June	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
Total	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
1881	Jan.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	22	
Feb.	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
March	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
April	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
May	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
June	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		
Total	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881		

Note.—Please inquire at your local agent. Table No. 11, 1890, of the U.S. Weather Bureau.

Karnal District.)

Table No. XXXIX, showing CIVIL and REVENUE LITIGATION.

YEAR.	Money or movable property.	Land and tenancy rights.	Land and lessees, and other debtors.	Total.	Other matters.	Total.	Value or value of suits outstanding		
							1	2	3
<i>Number of Civil suits concerning</i>									
1878	2,044	275	307	4,626	17,391	2,60,571	3,02,773	1,432	
1879	1,116	1,736	4,707	3,016	4,675	1,18,322	3,22,177	10,824	
1880	1,112	1,112	4,575	314	4,674	4,25,000	3,02,177	16,921	
1881	1,112	1,112	3,762	169	4,100	16,477	4,12,905	6,11,175	1,638
1882	1,112	1,112	2,867	260	3,948	16,024	2,00,304	2,00,304	1,629

Note.—These figures are taken from Tables Nos. VI and VII of the Civil Reports for 1878 to 1882, and Nos. II and III of the Reports on Civil Justice for 1881 and 1882.

Table No. XXXIX contains no details of the value of the property being available.

Table No. XL, showing CRIMINAL TRIALS.

	1	2	3	4	5	6
	1870.	1872.	1873.	1874.	1875.	1876.
Brought to trial						
Indictment						
Accused						
Convicted or released						
Remanded to prison						
Warrant issued (regular)						
Warrant issued (provisional)						
Warrant issued (extradition)						
Total cases disposed of						
Death						
Transposition for life						
for a term						
Probation						
Probationary						
False entries						
False entries 1 to 10						
" 10 to 50 " imposed						
" 50 to 100 "						
" 100 to 200 "						
" 200 to 500 "						
Over 500 rupees						
Injunctions made & months						
" 6 months to 2 years						
Whipping						
Fined sums of the poor						
Restraints to keep the poor						
Forced labour for good behaviour						

Note.—These figures are taken from Statements Nos. III and V of the Criminal Reports for 1858 to 1860, and Nos. IV and V of the Criminal Reports for 1861 and 1862.

Table No. XII, showing POLICE INQUIRIES.

Number of Officers.	Number of cases registered & solved.										Number of persons arrested & released.										Number of persons convicted.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	8010	8011	8012	8013	8014	8015	8016	8017	8018	8019	8020	8021	8022	8023	8024	8025	8026	8027	8028	8029	8030	8031	8032	8033	8034	8035	8036	8037	8038	8039	8040	8041	8042	8043	8044	8045	8046	8047	8048	8049	8050	8051	8052	8053	8054	8055	8056	8057	8058	8059	8060	8061	8062	8063	8064	8065	8066	8067	8068	8069	8070	8071	8072	8073	8074	8075	8076	8077	8078	8079	8080	8081	8082	8083	8084	8085	8086	8087	8088	8089	8090	8091	8092	8093	8094	8095	8096	8097	8098	8099	80100	80101	80102	80103	80104	80105	80106	80107	80108	80109	80110	80111	80112	80113	80114	80115	80116	80117	80118	80119	80120	80121	80122	80123	80124	80125	80126	80127	80128	80129	80130	80131	80132	80133	80134	80135	80136	80137	80138	80139	80140	80141	80142	80143	80144	80145	80146	80147	80148	80149	80150	80151	80152	80153	80154	80155	80156	80157	80158	80159	80160	80161	80162	80163	80164	80165	80166	80167	80168	80169	80170	80171	80172	80173	80174	80175	80176	80177	80178	80179	80180	80181	80182	80183	80184	80185	80186	80187	80188	80189	80190	80191	80192	80193	80194	80195	80196	80197	80198	80199	80200	80201	80202	80203	80204	80205	80206	80207	80208	80209	80210	80211	80212	80213	80214	80215	80216	80217	80218	80219	80220	80221	80222	80223	80224	80225	80226	80227	80228	80229	80230	80231	80232	80233	80234	80235	80236	80237	80238	80239	80240	80241	80242	80243	80244	80245	80246	80247	80248	80249	80250	80251	80252	80253	80254	80255	80256	80257	80258	80259	80260	80261	80262	80263	80264	80265	80266	80267	80268	80269	80270	80271	80272	80273	80274	80275	80276	80277	80278	80279	80280	80281	80282	80283	80284	80285	80286	80287	80288	80289	80290	80291	80292	80293	80294	80295	80296	80297	80298	80299	80300	80301	80302	80303	80304	80305	80306	80307	80308	80309	80310	80311	80312	80313	80314	80315	80316	80317	80318	80319	80320	80321	80322	80323	80324	80325	80326	80327	80328	80329	80330	80331	80332	80333	80334	80335	80336	80337	80338	80339	80340	80341	80342	80343	80344	80345	80346	80347	80348	80349	80350	80351	80352	80353	80354	80355	80356	80357	80358	80359	80360	80361	80362	80363	80364	80365	80366	80367	80368	80369	80370	80371	80372	80373	80374	80375	80376	80377	80378	80379	80380	80381	80382	80383	80384	80385	80386	80387	80388	80389	80390	80391	80392	80393	80394	80395	80396	80397	80398	80399	80400	80401	80402	80403	80404	80405	80406	80407	80408	80409	80410	80411	80412	80413	80414	80415	80416	80417	80418	80419	80420	80421	80422	80423	80424	80425	80426	80427	80428	80429	80430	80431	80432	80433	80434	80435	80436	80437	80438	80439	80440	80441	80442	80443	80444	80445	80446	80447	80448	80449	80450	80451	80452	80453	80454	80455	80456	80457	80458	80459	80460	80461	80462	80463	80464	80465	80466	80467	80468	80469	80470	80471	80472	80473	80474	80475	80476	80477	80478	80479	80480	80481	80482	80483	80484	80485	80486	80487	80488	80489	80490	80491	80492	80493	80494	80495	80496	80497	80498	80499	80500	80501	80502	80503	80504	80505	80506	80507	80508	80509	80510	80511	80512	80513	80514	80515	80516	80517	80518	80519	80520	80521	80522	80523	80524	80525	80526	80527	80528	80529	80530	80531	80532	80533	80534	80535	80536	80537	80538	80539	80540	80541	80542	80543	80544	80545	80546	80547	80548	80549	80550	80551	80552	80553	80554	80555	80556	80557	80558	80559	80560	80561	80562	80563	80564	80565	80566	80567	80568	80569	80570	80571	80572	80573	80574	80575	80576	80577	80578	80579	80580	80581	80582	80583	80584	80585	80586	80587	80588	80589	80590	80591	80592	

Table No. XLII, showing CONVICTS in GAOL.

YEAR.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Previous occupation of each convict.			
															Religion of convicts.			
																Muslim.	Hindoo.	Buddhist and Jain.
1877-78	204	3	514	36	262	310			15							450		
1878-79	230	18	703	58	331	370			4							628		
1879-80	225	18	449	14	193	149			1							127		
1880-81	200	0	378	37	82	155			1							110	13	
1881-82	247	10	223	30	89	131			74							108	13	

Year.	15	16	17	18	19	20	21	22	23	24	25	26	Length of sentence of convicts.				Previous occupation.				Penitentiary results.						
													Under 1 month to 1 year.	1 year to 2 years.	2 years to 5 years.	5 years to 10 years.	Over 10 years.	Under 1 month.	1 to 6 months.	More than 6 months.	Trade.	More than 6 months.	Less than 6 months.	Com. of main income.	Profits of service.	Agricultural.	Commercial.	Industrial.
1877-78	161	208	342	100	32	15	1	15	4	41	10	15	12,912	2,051													
1878-79	294	230	420	125	15	15	1	45	16	15	15	15	16,823	1,115													
1879-80	10	90	104	14	15	15	1	20	4	15	15	15	15,049	6,090													
1880-81	69	55	27	6	15	15	1	29	4	5	5	5	12,107	2,253													
1881-82	29	41	21	1	15	15	1	19	5	5	5	5	11,654	2,749													

Note.—These figures are taken from Tables Nos. XXVIII, XXIX, XXX, XXXI, and XXXII of the Administration Report.

Table No. XLIII, showing the POPULATION of TOWNS.

Total.	Town.	Total population.	Hindoo.	Sikhs.	Jain.	Musalmans.	Other religions.	No. of occupied houses.	Persons per 1000 occupied houses.				
									1	2	3	4	
Karnal	Karnal	20,133	18,212	110	212	2,220	42	4,070	622				
	Kurukshetra	4,720	2,171	—	—	2,450	—	—	870	539			
Panipat	Panipat	24,002	7,393	1	769	10,017	—	2,002	949				
Kallianpur	Kallianpur	11,751	6,701	171	149	5,672	—	2,002	541				
	Dewana	2,717	2,212	11	—	2,454	—	—	387	1,093			
	Fazilka	4,977	3,048	9	1	1,000	—	—	642	1,463			

Note.—These figures are taken from Table No. XX of the Census Report of 1881.

Table No. XLIV, showing BIRTHS and DEATHS for TOWNS.

Town	Rate.	Total population estimated by the Census of 1871.	Total births registered during the year.						Total deaths registered during the year.					
			1877.	1878.	1879.	1880.	1881.		1877.	1878.	1879.	1880.	1881.	
Karnal	—	Males— Females	12,005 11,320	430 414	494 394	334 279	312 242	437 373	825 772	825 779	1,085 1,020	903 875	930 850	
Kallital	—	Males— Females	8,018 7,751	292 252	299 148	104 74	125 110	198 151	148 112	160 108	188 153	182 165	180 165	
Panipat	—	Males— Females	12,404 12,321	378 352	500 415	393 319	411 321	521 322	405 350	406 320	543 453	403 343	404 347	

Note.—These figures are taken from Table No. LVII of the Administrative Report.

Table No. XLV, showing MUNICIPAL INCOME.

I	II	III	IV	V	VI	
Name of Municipality.	Karnal.	Panipat.	Kallital.	Panipat.	Kasjapura.	
Class of Municipality	II.	III	III.	III	III.	
1870-71	—	10,270	10,421	7,834	1,016	971
1871-72		10,327	8,862	8,424	1,110	1067
1872-73		14,215	10,913	8,285	1,184	1,177
1873-74		11,670	9,925	6,630	1,300	1,229
1874-75		12,762	11,469	8,238	1,290	1,247
1875-76		15,314	9,352	7,500	1,428	1,260
1876-77		16,362	10,516	8,155	1,121	1,036
1877-78		16,360	10,057	8,168	1,300	1,043
1878-79		15,731	14,314	8,265	1,285	1,046
1879-80		18,078	10,726	11,364	2,148	1,703
1880-81		19,013	21,573	12,003	2,018	1,729
1881-82		19,061	20,989	14,172	2,312	1,960

Table No. XLVI, showing DISTANCES.

| Chandigarh | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 1 |

APPENDIX.

*Growth of irrigation from the Western Jumna Canal, and
extinction of saline efflorescence and swamp.*

The figures below show the irrigation from the whole of the Western Jumna Canal, from 1819 to 1840, no separate figures being available for the district. The Delhi Branch was opened in 1820, but the small supply of water carried by it may be estimated from the fact that till 1826, at least, no bridges were needed, as a loaded village cart could be driven through it without inconvenience. In 1826 the Rohtak Branch was opened as far as Gohkra; but the irrigation from both these canals, though steadily increasing up to 1833, was still very limited, and in 1831 the small use made of the water was attributed to "the uncertainty of the supply, the insufficiency of the outlets permitted for each village, and the high rates charged" *i.e.*, Rs. 11-2 per acre.

Early Irrigation from Western Jumna Canal.

Appendix.

Growth of irrigation.

YEAR.	AMOUNT OF WATER RATE IN RUPEES.	AREA CALCULATED AT AVERAGE RATE OF RS. 11-2 PER ACRE.	REMARKS.
1819-20	960	1,255	
1820-21	14,010	20,988	
1821-22	25,010	35,270	
1822-23	21,629	30,743	
1823-24	36,015	51,000	
1824-25	20,647	28,165	Drought.
1825-26	49,374	56,220	Famine.
1826-27	33,970	45,090	Rohtak Branch opened.
1827-28	36,161	48,963	
1828-29	52,953	70,592	
1829-30	68,373	76,186	
1830-31	57,700	52,054	
1831-32	51,010	53,100	
1832-33	66,205	64,260	
1833-34	1,46,783	8,13,200	Famine.
1834-35	1,34,093	1,09,625	
1835-36	1,10,933	1,05,404	
1836-37	1,63,177	1,10,501	
1837-38	2,72,376	2,00,318	Drought.
1838-39	2,10,610	2,71,701	
1839-40	2,24,298	3,31,541	Rain scarcity.
1840-41	2,35,818	3,40,287	Contract system introduced.
1841-42	2,50,000	3,70,078	
1842-43	2,70,300	4,00,287	

Appendix.
Growth of irrigation.

The terrible famine of 1833-34 gave a new turn to the irrigation question. This famine fell with perhaps even greater severity upon the Bāngar than upon the Khādar, for the canal failed, while the people of the latter had at least their wells, so long as the cattle had strength to work them. The distress, feebly described at page 23, paralysed for a whole year the agriculture of the tract. But this very distress was the means of securing at one bound an advance in prosperity which might otherwise have taken many years to attain. The canal presented at least a possibility of salvation; and its officers had no longer reason to complain that the water they proffered was not accepted. Irrigating villages enlarged and multiplied their channels; numerous other villages which had never before irrigated dug cut for themselves, often many miles in length, and the area irrigated was limited only by the means of supply, instead of, as heretofore, by the demand. Stronuous efforts were made to increase that supply, and the irrigation of 1833-34 was 2½ times that of 1832-33, while the construction of the Butān Branch extended the water to a part of the tract which it had previously been unable to reach. The means of irrigation, once called into existence by the pressure of a water-famine, were still available when the urgent necessity had passed away; and the irrigation never again fell to its former level. The failure of the rains in 1836-37 raised it above the figures of 1832-33, and the continuance of the drought caused the irrigation in 1837-38 to rise to what Captain Baker, the Superintendent of Canals, declared in 1841 to be the maximum capacity of the channels as they then stood. But the supply was still uncertain, and apt to fail when most needed. The whole system of canals and their subsidiary channels had been called on to perform a task far in excess of that for which they had been designed; the call had been urgent, and the necessary adaptation had been made as best they could, and on the spur of the moment. The arrangements at the head for supplying the water from the river were also very imperfect; and too often the canal broke down just when there was the greatest need for its services.

Year.	Acre.
1836 ..	42,244
1837 ..	66,172
1838 ..	122,361
1839 ..	35,344
1840 ..	77,377
1841 ..	92,390
1842 ..	92,043
1843 ..	87,581

The table on the opposite page shows the irrigation between 1865 and 1875. The figures refer only to the portion of the district settled by Mr. Ibbotson; but the canal irrigation excluded is insignificant in amount. Since that date the area charged with water-rates in the Karauli District has been as shown in the margin.

When the canal was re-opened, every facility was offered to such villages as would make use of the water. In most cases an old imperial water-cut still existed, which they were allowed to clear out and use; and when there was none, they simply made themselves a channel straight from the nearest point on the canal from which

Year.	Average Irrigation		Central Irrigation		Pluvial Irrigation		Ground Irrigation		Total Irrigation	
	Rate per acre	Acreage	Rate per acre	Acreage	Rate per acre	Acreage	Rate per acre	Acreage	Rate per acre	Acreage
1863	1,300	620	7,403	651	0.207	174	75.4	75.4	22,400	22,400
1865	1,112	2,192	150	456	0.364	57.1	4,719	4,719	37,288	37,288
1867	1,152	958	6,003	10	0.470	445	1,490	1,490	18,211	18,211
1868	1,218	2,203	6,768	2,340	0.103	600	2,733	2,733	16,000	16,000
1869	1,018	652	9,163	1,301	0.063	370	2,252	2,252	20,000	20,000
1870	1,142	6,789	910	967	0.490	644	2,425	2,425	86,770	86,770
1871	1,053	1,053	120	62	0.213	1,601	1,601	1,601	24,000	24,000
1872	1,092	2,492	643	166	0.274	382	43.6	43.6	21,740	21,740
1873	1,122	7,140	7,140	74	0.467	169	0.19	0.19	20,000	20,000
1874	1,112	...	...	...	...	...	...	...	...	...
1875	1,112	...	...	...	...	...	...	...	...	...
1876	1,227.5	370	7,274	577	0.241	419	1,216	1,216	2,614	2,614
1877	461	7,880	4,256	10,440	0.558	22,217	1,261	1,261	2,400	2,400
1878	12,171	2,018	12,380	1,637	0.673	20,673	1,021	1,021	6,164	6,164
1879	11,497	2,623	6,202	4,418	0.630	20,630	1,031	1,031	3,767	3,767
1880	9,443	6,163	6,163	7,106	0.407	10,109	2,013	2,013	9,048	9,048
1881	11,121	7,129	8,048	7,773	0.534	27,534	1,100	1,100	77,511	77,511
1882	10,206	10,206	6,708	2,173	0.618	20,618	1,540	1,540	8,298	8,298
1883	12,474	4,222	7,222	656	20,413	1,042	3,756	3,756	10,450	10,450
1884	10,110	6,204	0,160	489	11,328	2,024	4,998	4,998	1,014	1,014
1885	14,731	4,790	6,053	4,060	0.036	221	611	611	6,177	6,177
1886	1373	111	...	...	...	...	...	...	49,159	49,159
1887	1373	111	...	...	...	...	...	...	41,922	41,922
1888	1373	111	...	...	...	...	...	...	...	...
Average ...	10,949	4,005	8,067	2,870	0.224	1,224	2,020	2,020	31,394	31,394

Appendix:
Growth of irrigation.

Appendix.**Growth of irrigation.****Defects of the canal system.**

water would flow to their field. As the demand for water has extended, certain large distributaries have been constructed, which have absorbed many of the early channels, while others have been deepened, enlarged and extended. The main canals, too, have been deepened and their banks raised, till the water touches the crown of the arks in the bridges. Most of these extensions were made under pressure of urgent need, and therefore without interrupting the supply, and too hurriedly to admit of due consultation being given to them, or of the best possible scheme being selected. Thus, while the faulty alignment of the old canal and channels is still followed, their carrying capacity has been so increased that in most parts the surface level of the water, and in some places the bed of the canal, is above the surrounding country, and the water is thus forced into the sub-soil by hydraulic pressure.* A great deal of the canal is, of course, in embankment; and many of the secondary channels, tilt clearance, often dating from the time of the Mughals, have raised the bank to a height of 12 and 15 feet; and this system of embankment has been constructed with so little reference to the natural drainage that it intersects all the drainage lines of the tract, and throws back the surface water over the surrounding country. This is especially the case in Kurnil Bangar, where the canal runs in embankment below the Nardak top in the Bangar, and the Khadar bank in the Khadar, and holds up all the drainage which runs southwards from the highlands. The highland distributaries which cross the lowland to reach the villages on the crown of the slopes, act as so many dams above which huge swamps form, while the pools of the old channel in which the canal used to run, and which are cut off by it now that it has been straightened, act as breeding beds for crocodiles and malarial.

Ramification of irrigation practiced by the people.

But if the defects of the means of supply have given rise to evils, the pernicious system of irrigation pursued by the people, coupled with its rapid extension has increased those evils a hundred fold. While some 8 per cent. of the central canal tract is permanently under water, 40 per cent. of the whole area and 80 per cent. of the cultivated area is irrigated, much of it twice in the year, much of it for rice cultivation, and almost all of it every year without intermission. Now canal irrigation is not like well irrigation. When every drop of water used is represented by additional labour to man and

* The total irrigation from Western Jamuna Canal at various periods is shown below —

Years.	Area.
1821	125
1824	34,185
1837	76,481
1841	221,611
1870	400,512
1878	307,073

The average depth of water in feet at Kurnil bridge at various periods is as follows :—

Years.	Feet.
1827	4.51
1830	5.20
1835	6.13
1870	9.51
1878	10.10

And the bottom from which these depths are measured has been raised considerably during the period over which these figures stand.

beast, the greatest economy is exercised ; not so when a stroke of the spade is sufficient to set flowing an unlimited supply. In the former case the cultivator divides his fields into small beds which are irrigated successively, and practically answer the purpose of terraces economising the water, not only by reducing the depth needed, but also by confining the area of already watered ground over which the water has to pass. On the canal, on the other hand, if a field is six inches lower at one end than at the other, a seven-inch bank is made round it, and the whole field put under an average of four inches of water, in order to get one inch at the top ; each spot in the field, after receiving its water, is still passed over by the water which goes to spots beyond it ; and if a leak occurs in the channel, or if a bullock breaks down the side, the water is allowed to run to waste for hours before any trouble is taken to remedy the evil. The duty of the canal-water for 1874-75 was 74 acres in the autumn, and 80 in the spring per cubic foot of supply. Supposing that the loss by evaporation and waste is counterbalanced by the fact that much of this land is watered in both seasons, this represents a supply of 62 inches to the year. A well working 13 hours a day for 110 days in the spring and 80 days in the autumn, and watering 15 acres, would have to supply at this rate 6,067 gallons per hour. Moreover, the well water is itself drawn from the subsoil supply, and all that is lost by evaporation during the process of irrigation is so much lost to that supply ; while in canal irrigation, all that is not so lost, is so much added to that supply.

The result is that the whole country is water-logged by the canal-water being forced into it from below, while the cultivator drenches it from above. And when the rain comes in tropical abundance, in such a fashion as to find a thirsty soil ready to drink up the greater part, it falls upon a country already saturated with water, and the whole volume is thrown into shallow drainage lines with an almost imperceptible slope. These again, being barred at intervals by high banks crossing them at right angles, silt up, and the water is thrown back and covers the country for miles. Thus, when the rainfall has been unusually heavy for several years in succession, there are hundreds of acres in which the autumn crop, if it can be sown at all, is almost or altogether drowned ; while such little land as appears above the water soon enough to plough for the spring crop is so moist that the yield is barely worth the trouble of gathering. And there is a still larger area in which, after heavy rain, the water stands some inches deep for three or four days at a time, to the great injury of the crop. No means exist of carrying off the water, for, as the Chief Engineer reported in 1877, "the level of the water in the canal can very seldom be reduced in the rainy season, just when the drainage of the swamps is most needed ; as even if the supply at the heads be shut off, the quantity of water streaming into the channel above Karnal is sufficient and sometimes more than sufficient, to fill the channel at and below that point."

Appendix.

Growth of irrigation.

Excessive irrigation
practised by the
people.

Resulting swamps.

Appendix.

Growth of irrigation.
Resulting saline efflorescence.

Nor is it only swampage that results from the causes above mentioned; for if it were higher land might be cultivated as the lower became unculturable. For countless ages the rain falling upon the soil has washed down with it more or less of its saline constituents into the spring water below. That water now has been raised to within such a short distance of the surface that it can rise to it by capillary attraction, carrying with it salts which have been thus accumulated. As fast as it reaches the surface, wherever the cultivation or the shade of a thick tree does not interfere with radiation and evaporation, the fierce heat of an Indian sun concentrates the solution. Where the water is so near the surface, and the surface moisture so great that diffusion can take place, and the water thus made heavier can return by the way it came, no great harm is done. But over most of the area this is not the case, and the water evaporating leaves the salt deposited; and this process, repeated year after year, eventually covers the soil with a flocculent layer of alkaline salts, lying like fresh-fallen snow, often three or four inches thick. The first rain that falls is not heavy enough to reach the main drainages, and sinking in *in situ* carries with it the salts; thus preserving them by a sort of occlusion from the mechanical action of heavy rain, to reappear when the next sunny day restores the process of evaporation.*

The salts lie thick round the edges of the cultivation, and notwithstanding the bank made to keep them out, are carried over the boundary by the wind and rain and deposited in the hollows of the out-lying fields. When once cultivation is thus destroyed, the capillary process immediately begins, and thus the evil is gradually eating its way from outside into the still fertile fields, every inch gained being made the stepping-stone for further invasions. The saline water and such grass as is able to spring up in the salt-impregnated land give the cattle diarrhoea and glandular affections, enteritis, and eventually kill them; while the large area which is each year covered with water and aquatic plants in the rainy season, and dried up by the sun during the remainder of the year, exhales from its putrefying vegetation a miasma which poisons the blood of the villagers, renders them impotent, and kills them by fever and spleen disease.

Effects upon health and prosperity.

The epidemic of 1841-42, which assumed special virulence in the canal tract, and caused the abandonment of Karnal as a cantonment, led to the appointment of a Committee by the Supreme Government to investigate the matter. Their report was published at Agra in 1847. In 1867 Surgeon Major Aslam

* An enormous amount of information and discussion on the subject of salt, its origin, formation, effects and cure, will be found in the report of the Alligarh Salt Committee of 1870, in Selections No. XI.II (1881) from Government of India Correspondence, P. W. D., and in the printed correspondence with Board of Revenue, N. W. P., No. 231 of 21st October 1874, and Government, N. W. P. Revenue Department, India No. 61-83 of May 1877.

Karnal District.

GROWTH OF IRRIGATION.

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Taylor was appointed to make a further inquiry; and his report was published as Selection No. VI of 1870 from Records of Government Punjab. Some of the figures of both reports are summarised in the Table given below.

Dr. Taylor shows that 60 to 80 per cent. of the inhabitants in many of the Bangar villages were suffering from enlarged spleen and yearly attacks of fever. He speaks of the " languor and depression of manner, and stunted and shrivelled forms of the inhabitants of the villages in close proximity" to the swamps; and of the absence of "the strength to repair damages or to preserve comfort." The heavy rains of 1871-76 rendered the sanitary condition of the canal villages worse than ever.

In 1858 the people of many of the worst villages abandoned their homes and fled to Jind; and Mr. Sherer was deputed to inspect the tract. His admirable report was submitted in 1857, and is printed as part of Selections No. XLII (1864) from Government of India correspondence, P. W. D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the evil had not nearly reached its limits, but must necessarily continue to spread almost indefinitely.

Statistics of Disease on Western Jumna Canal.

Locality.	Distance from Canal.	Depth of water below soil surface.	Percentage of large swamps.	PERCENTAGE SUFFERING FROM FEVER IN					
				1856.	1857.	1864.			
REPORT OF 1847.									
WESTERN JUMNA CANAL.									
Dehl Branch ...	Within half a mile ...	11	68	51	40	11			
	More than a mile ...	18	42	51	47	40			
Rohtak Branch ...	Within half a mile ...	25	44	47	38	27			
	More than a mile ...	45	29	34	34	27			
Rajputana Branch ...	More than half a mile	102	16	41	36	22			
NON-CANAL VILLAGES.									
Dehl territory ...	...	88	11	34	28	11		
High Doab ...		74	8	37	31	29			
REPORT OF 1857.									
Dehl Branch ...	Within half a mile ...	6	61	32	20	13			
	More than a mile ...	11	44	30	25	14			
Rohtak Branch ...	Within half a mile ...	5	41	26	26	11			
	More than a mile ...	7	47	44	34	18			
Rajputana Branch ...	More than half a mile	46	7	33	23	21			
Between the Canals ...		9	47	34	21	16			

Appendix.

Growth of irrigation.

Effects upon health
and prosperity

Appendix.

Growth of irrigation.

Effects upon health and prosperity.

From a sanitary point of view he found a state of things existing "very much worse than that described by the Committee of 1847." He speaks of the miserable disease engendered by the tainted water and malarious exhalations of the soil; of the spectacle of sick women and diseased children croaking among the ruins of their houses (for in many cases the rafters had been sold), of haggard cultivators wading in the swamps, and watching their sickly crop, or attempting to pasture their bony cattle on the unwholesome grass.

Present condition.

In the beginning of 1877 Mr. Tibbetson, reporting on the assessment of the canal tract, wrote as follows:—

"The villages of the tract may be described under three heads. Those which, well removed above the influence of the *reh*, reap the benefits of the canal without being subject to its injuries, are eminently prosperous.

"Those villages, which, though out of the lines of drainage and swamp, are so low that their pastures are covered by *reh*, are far less prosperous. Their cultivation has decreased, and must decrease still further; the fertility of what remains has diminished; expansion is impossible; what little grass there is for the cattle weakens and kills them, and the water is bad for both man and beast. Where the village is large and well off, they have saved the mass of their cultivation from any very great deterioration, and the inroads of *reh* are chiefly confined to the edges. But where the community is poor, the whole cultivation has suffered, and the *reh* advances with accelerating impetus. It is, then, most important to assess lightly this class of villages, so that they may not be hampered in their struggle with the evil.

"As for the villages which lie in the drainage lines, or have low land near the canal, their state is pitiful indeed. Their early cultivation was, as is the case throughout the district, in the lowest parts of their area; and while the higher lands were becoming covered with *reh*, the stiff soil of the fields helped to protect the lower from injury. But as the water-level rose, and swamps and seakage began to extend, they found their cultivation under water, while, turning too late to their high lands they perceived that they had become barren; and now they live a semi-nomadic life, their houses crumbling with the damp, crocodiles in their village ponds, the water in the wells so near that, as they say, they can 'draw water without a string,' their sickly feeble cattle obliged to leave the village during the rains, and they themselves suffering from all complications of malarious disease with an unbroken regularity. Year by year they now rise with the certainty that only an exceptionally dry season can save it from being drowned, and that much of it must even then be injured by too much water; year by

year they watch the fields as they dry up, and rapidly passing a plough through the incandescent mud, sow their wheat and barley in the open furrows, till the very last moment when there is hope of their germinating, or even saw the seed on the unbroken mud, and plough over it when the ground is a little drier; and this in the knowledge that some of it will fail, that heavy rain will drown more of it, and that most of what does come up will barely repay the labour spent on it. Much of their land is sour and cold from being so permanently saturated with water that, though not under water, it cannot be cultivated; some of it perhaps is separated from their village by the canal, the nearest bridge being some miles off, and it being forbidden to take cattle to it along the bank. In a year of drought these villages no doubt reap splendid crops, but years of drought unfortunately the exception, and I think that the very largest allowance should be made for the circumstances of estates so situated.

"My experience of the tract was then limited to a probably exceptional series of seasons of full or excessive rainfall. Since then I have seen them during a series of, I hope, exceptionally scanty rains, and I think I exaggerated the average condition of the swampy villages. It would be difficult to exaggerate it as it is in really wet years."

General Strachey did not speak one whit too strongly, when he said in 1867:—

"The portion of the canal near Karnal is a disgrace to our administration, and has been for years past. It creates most pestilential swamps which must be got rid of, unless we are content to perpetuate this abominable nuisance, which has been talked about for the last 25 years, during which period no serious attempt has been made to abate it. For my own part, I distinctly reject all share in any counsel which tends to delay in meeting this most crying evil. I most fully admit the great importance of doing what has to be done with the most scrupulous regard to economy, and I am ready to sacrifice all thought of elegance or congruity for the purpose of avoiding any considerable outlay, which is really not needed to secure efficiency. But it is impossible for me to affirm, with too great positive-ness, the moral obligation which rests on our Government to put an end, with all possible speed, to the discreditable condition of the large tracts of land along the Western Jumna Canal, which are converted into swamps of the most pestilential nature, not only destructive to the health and life of the population, but occupying in a manner far worse than useless some of what might be the very best lands. It will be necessary to do something, and what is necessary should not be delayed till other works, which have no relation to this part of the scheme, are completed."

Appendix
Growth of Irriga-
tion
Present conditions

Appendix.
Growth of irrigation.
Present condition.

The new canal is now nearly complete ; the re-alignment of the distributaries has already done much good, and the completion of the drainage scheme will doubtless go far to cure the evil of swamps. But the efflorescence will not be so easily got rid of ; and it will, probably, be many years before this scourge is very materially decreased.

The above was written by Mr. Ibbetson eight or nine years ago. The following note by Mr. Higham, Superintending Engineer, Cis-Sutlej Division, shows what has been done to remedy the evils to which Mr. Ibbetson referred.

The new main line of the Western Jammu Canal, extending from Indri to Mumak, was completed in 1885, and in August of that year the old canal between Indri and Rei was finally closed, and relegated to its proper position as a drainage line. The re-alignment of the distributaries has been since completed, and the obstructions to the free passage of the drainage caused by the old water-courses have been finally removed. Lastly the Karnal District has been provided with three main or arterial drains, two of which have been in full working order since 1887, though the third is not yet fully developed. The first of these, known as Main Drain No. I, comprises a length of the old canal from Budha Khora to Kharakall. The outfall channel leaves the old canal opposite Karnal in a north-easterly direction falling into the Budha Khora Escape of the Western Jammu Canal at Kutai, and thence passing onwards into the Jumna. Three minor tributary drains discharging into this main drain unwater the Karnal City and neighbourhood and the Basida Jhir, and completes the drainage of the great bight of the Khadir lying between the Bangar edge and the old canal, the whole condition of which has very materially improved since its construction. Main Drain No. II comprises a further length of the old canal from Kharakall to Rei, which drains the adjacent Bangar villages. From Kutana the drain is connected by an artificial cut with the old Rei Escape, which has been enlarged and remodelled as far as Babail, four miles to the east of the Grand Trunk Road. From Babail the new drain leaves the line of the Rei Escape by a sharp turn to the south and eventually discharges into an old nullah below Chajpur, and so on into the Jumna at Khojskipur, 12 miles below Panipat. This drain passes into the Khadir at Mahomedpur, and receives the waters of the Ganda Nullah, or natural main line of the Khadir immediately above the point of crossing the Grand Trunk Road. Several other inlets are provided along its course both in the Bangar and Khadir for the drainage of adjacent lands, while at its lower end the soil on the left or eastern bank efficiently protects several villages from the overspill of the Jumna.

The third arterial drain, known as Main Drain No. III, or the Nal Nullah, will drain the lands to the west of the new main line and New Bangi Branch until it passes under the latter at Asin, a short distance above Sesdan, in Jind territory.

Below this point it unwaters the tract lying between the New Delhi Branch and the old Rohtak Canal, and constitutes a natural drainage line, which passes into the Rohtak District at Chichian (when it is locally known as the Loti Nallah) running in a southerly direction through Goháus and to the west of Rohtak, with an ultimate outfall into the lakes north of Jhajjar, which communicate with the great Najafgarh Jhil in the south of the Dehli District. Until recently however the outfall below Goháus was completely closed, and the efficiency of the Nai Nallah as a drainage line was limited by the capacity of the Rohta Jhil above that town. By the completion of Main Drain No. VIII below Goháus an efficient outfall has now been provided and the clearance of the upper part of the nallah and of a few subsidiary drains alone remains to complete this third and important main drain, and with it the drainage scheme for the canal irrigated portions of the Karnal District.

Appendix**Growth of irrigation.**

Present condition.





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